Nitrogen Evaporator/Sample Concentrator

NEC60-R12E

Description

It is a nitrogen blow-down evaporation system that provides automated evaporation of up to 12 samples in parallel with end-point detection. The system adopts the vortex airflow technology, which can rapidly and gently evaporate the samples in parallel.

Efficiency&Reliability

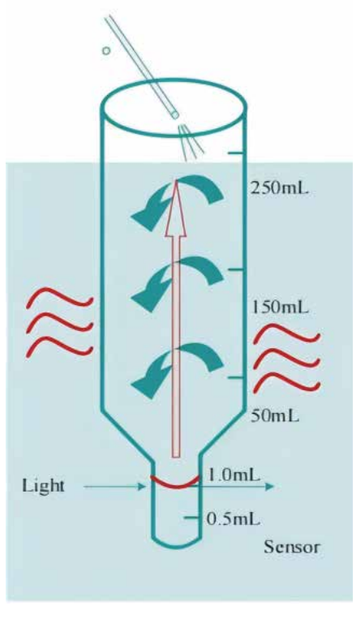
The system combines uniform and gentle heating with vortex airflow technology to provide rapid and gentle evaporation for sample in parallel. Each row of nozzles can be controlled individually.

Airflow is adjustable and flow rate can be set in a gradient according to the decreasing sample volume.

Each nitrogen blowing channel can be switched on and off individually, total 12 channels.

Automated Evaporation Completion

With end-point sensor technology, the system can automatically detect the endpoint, which can efficiently concentrate up to your predefined volume to 1.0mL.



Optional 60mL Tube

Optional 250mL Tube

Flexibility

The nozzles can be adjustable for left and right angles blowing, which is compatible with a variety of sample tubes. It is commonly used for 60mL and 250mL tubes.

The system can automatically supply and drain water, quickly exchange the sample in the water bath.

During the evaporation process, the angle of the nitrogen blowing needle can be adjusted, and the horizontal position of the nitrogen blowing needle can be adjusted within a range of ≥ 30mm.

Humanized Design

Three-sided transparent glass windows with internal light greatly improves the visibility of the process of nitrogen blowing and concentration.

The water bath adopts double-layer glass design to protect users from high temperature.

The water tank is equipped with a liquid level sensor, water inlet and water outlet. Water filling and drainage can be controlled by software, and the liquid level can be detected by sensors.

Easy-Use Software Interface

With one touch screen airflow rate and temperature operation, with individual tube control.

Able to edit and save methods in the software, define and set parameters including temperature, flow rate, nitrogen channels.

Wide Ranges of Application

Concentration of liquid samples in food, water, environment, agricultural pharmaceutical industry, and life science research.

- Concentration: Water bath heating and nitrogen blowing
- Range of Flow Rate: 0~5.0L/min
- Sample Capacity: 12 position
- Sample Vials: 60mL or 250mL
- Temperature Range: RT.~60°C

Specification

Model	NEC60-R12E
Concentration	Water bath heating and nitrogen blowing
Sample Capacity	12 position
Temperature Range	RT.~60°C
Sample Vials	60mL or 250mL
Endpoint Detection	1.0mL
Range of Gas Flow Rate	0~5.0mL/min, precise to 0.1mL/min
Software Interface	10-inch built-in screen
Fume Hood/Ventilation	Required
Storage Environment	Temperature: 0~40°C; Humidity: 20%~85%
Operating Environment	Temperature: 10~40°C; Humidity: 20%~80%
Electricity	200~240V, 50/60Hz
Power Rate	1500W
External Dimension	580*460*560mm
Net Weight	41kg

Nitrogen Evaporator/Sample Concentrator

NEC90-R80W

Description

The nitrogen evaporator features a needle-following function to maintain the optimal distance between needle tips and the liquid level. It also ensures that the gas above the samples is always protected by positive-pressure nitrogen gas to exclude oxygen and moisture from the air, thereby achieving efficient and parallel concentration of all samples.

Application

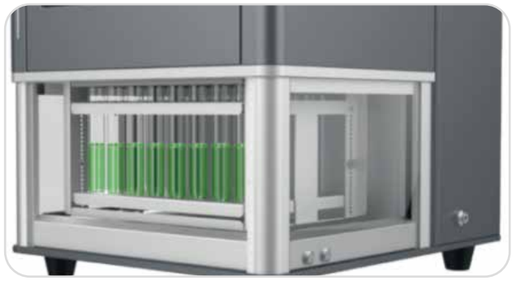
- Environment: Sample concentration in analysis of water, soil and gaseous samples;
- Food: Sample concentration in detection of pesticide and veterinary drug residues;
- Others: Biochemical analysis, pharmaceuticals, polymer materials;

Features

Multi-channel Design

Individual gas flow control for each channel.

Quick-release nitrogen needles for effortless cleaning and maintenance, greatly enhancing the user experience.



Transparent Water Bath Tank

Features three-sided transparent glass windows to maximize the viewing area of the sample rack for clear observation and monitoring.

Needles tracing liquid level, maintain optimal distance for full concentration.

Good Parallelism of Nitrogen Blowdown

Utilize high-strength, diameter-reduced nitrogen needles to ensure the needle tips are centered in the sample tubes.

Each nitrogen blowing needle tip has the same inner diameter, ensuring the same flow rate of each needle tip and thus providing good consistency for sample evaporation.

Features

High-throughput & Effective-performance

Large batch processing capability, simultaneously evaporate up to 80 samples.

Nitrogen blowing needles automatically descend at a constant speed to trace the liquid level during concentration. Users can directly set the required descending speed in the software, range of vertical descending distance ≥160mm.

The nitrogen flow rate is automatically regulated by an electronic proportional valve. Users can set and adjust the flow via the software, covering a range of 0 to 3.0 L/min with a resolution of 0.1 L/min.

Intelligent Process Control & Operational Versatility

The water bath tank integrates a liquid level sensor with water inlet and outlet. The software controls water inflow/outflow and determines precise refill and drain endpoints via the sensor.

The nitrogen blowing module automatically descends to seal against the water bath during evaporation and retracts upon completion.

Monitor and adjust the needle height via the screen at any point during the process, with 0.1 mm precision.

Comprehensive Safety Protection

Built-in exhaust fan with an active exhaust pipeline to minimize the risk of solvent exposure.

Separated nitrogen blowing module and water bath heating modules to maximize operator safety.

Automatic gas pressure detection with low-pressure shutdown; includes alarms for insufficient water and dry-heating protection.

Double-layered glass water bath: Provides good thermal insulation, protecting users from high-temperature surfaces.

Anti-pinch function: It can sense hands or other obstructions and pause the descent before the nitrogen module reaches the water bath.

- Concentration: Water bath and nitrogen blowing
- Nitrogen Channel: 8
- Sample Capacity: 80 position
- Rapid lifting of nitrogen blowing needle
- Built-in touch screen and three-sided transparent window

Specification

Model	NEC90-R80W
Concentration	Water bath and nitrogen blowing
Nitrogen Channel	8
Sample Capacity	80 position
Sample Vials	80mL
Temperature Control	PID
Temperature Range	RT.～90℃
Fume Hood/Ventilation	Required
Electronic Air Flow Control Range	0.0-3.0 L/min
Storage Method Entries	≥110
Storage Environment	Temperature: 0～40℃; Humidity: 20%～85%
Operating Environment	Temperature: 10～40℃; Humidity: 20%～80%
Electricity	220～240V, 50～60Hz
Power Rate	1500W
External Dimensions	400*480*540mm
Net Weight	48kg

Water Bath Nitrogen EvaporatorSample Concentrator

NEC100-1

Features

- Water bath provides gentle heat.
- Accommodates sample in tubes(diameter 10~29mm), volume(1~ 50ml).
- 12positions, each position is numbered.

LCD

LCD display, easy operation; safe and reliable to use.

Blowing each sample independently.

With liquid-level sensor, have alarming function when dry heating.

The lifting needle valve controls the gas consumption at each position.

All parts are anti-corrosion, durable in use, easy to clean.

Description

The Water Bath Sample Concentration consists of a base and supporting assembly, sample holder and gas distribution system. Test tubes are placed by a spring-loaded sample holder and support tray. The gas passes through the flow meter to the distribution system. Flexible tubing leads gas to valve-tube assemblies at each position. Depending on the test-tube size and solvent volume, they can be individually raised or lowered to the correct height. Needles blow gas onto the surface of the solution resulting in rapid evaporation of the solvent.

Specifications

Model	NEC100-1
Temp. range	RT.+5℃~99℃
Time range	1min~99h59min/∞
Display accuracy	±0.1℃
Temp accuracy	≤±1℃
Temp uniformity(@60℃)	≤±1℃
Heating time(40℃-99℃)	≤30min
Samples position	12positions
Tube size	ϕ10~ϕ29(liquid volume 1ml~50ml)
Max vertical travel	200mm
Max gas pressure	200Kpa
Max. gas usage	15L/min
Gas joint diameter	ϕ8
Power	1000W
Fuse	250V 8A ϕ5×20
Dimension	390×300×850mm
Weight	10Kg

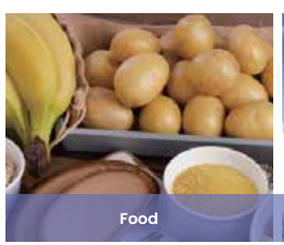
Nitrogen Evaporator/Sample Concentrator

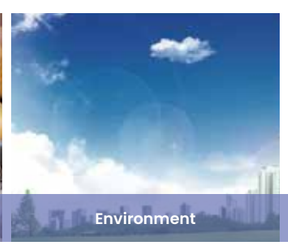
NEC100-R24M

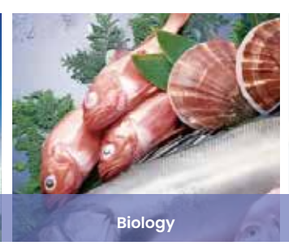
Description

The Nitrogen Evaporator is designed for the concentration of high throughput small-volume samples processing, suitable for microplates and injection vials. It uses stable and rapid nitrogen blowing and uniform heating to evaporate each well. It can be compatible with common microplates on the market, such as 24-position vials. NEC100-R24M system dries samples quickly by designed nitrogen needle, ensuring a constant flow rate. It's commonly used for microplate samples and 1.5ml, 2ml vials in chromatographic detection, 1-2mL centrifuge tubes in QuEChERS.

Application







Features

Efficient and uniform evaporation

Automatically and precisely control the air flow rate of each needle, which can ensure the consistent gas flow rate.

The flow rate is set via software, and not be affected by the number of nitrogen channels switched on.

Equipped with its own switch to shut down gas flow when other rows of microplate wells are not in use to conserve nitrogen gas.

Nitrogen blowing needles descend at a constant speed to trace liquid level during process. Range of vertical moving distance can be max. 50mm, can accommodate with sample vials of various height. Increase concentration efficiency, relatively reduce nitrogen gas consumption.

Descending speed of nitrogen blowing needles can be controlled in manual mode or auto mode, range of adjustment is from 0 to 100.0mm/min, precise to 0.1mm/min.

Good compatibility

They system has reserved space to install microplate and vials rack, which compatible with 1.5ml, 2ml vials,1-2mL centrifuge tubes in QuEChERS.

Graphical software interface

Built-in 7 inch touch screen, all-in-one software control, all parameters can be set and saved, including temperature, needle tracing speed. And all saved methods can be recalled to reproduce following process.

Specification

Model	NEC100-R24M
Concentration	Nitrogen blowing and sample rack heating
Nitrogen Channel	Max.4 channels; Every channel has own switch valve, can be controlled individually based on the number of concentration samples.
Sample Capacity	24 position
Sample Vials	2mL/5mL centrifuge vials, 2mL GC vial
Range of Gas Flow Rate	0 ~3.0L/min, precise to 0.1L/min
Temperature Range of Sample Rack	RT.~100°C, precise to 0.1°C
Software Interface	7-inch built-in touch screen
Fume Hood/Ventilation	Required
Hollow Sample Heating Rack	Observe the sample clearly
Safety	Alarm reminder for temperature and pressure, cut off the gas flow automatically
Storage Environment	Temperature: 0~40°C; Humidity: 20%~85%
Operating Environment	Temperature: 10~40°C; Humidity: 20%~80%
Electricity	200~240V, 50/60Hz
Power Rate	1000W
External Dimension	470*250*430mm
Net Weight	21kg

Nitrogen Evaporator/Sample Concentrator

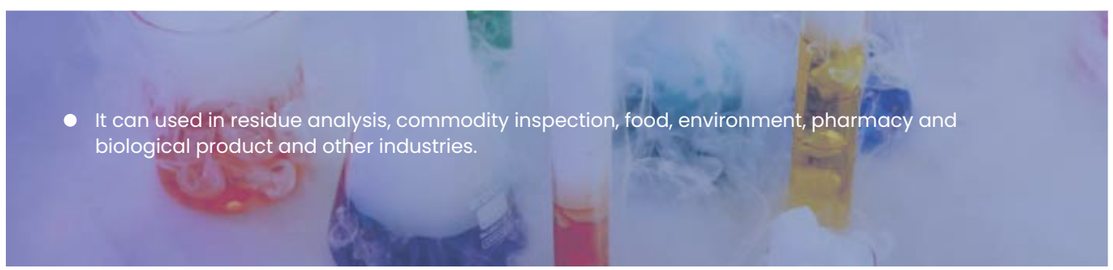
NEC160-1

Description

NEC160-1 sample concentrator is with microprocessor controlled and PID fuzzy controlled technique. Instead of traditional water bath device, the heat-conducting medium is high purity aluminum. The test tubes are held in a block, and blowing a large number of samples at one time.

Features

- High precision and wide range of temp. control.
- Blowing a large number of samples at a time.
- Blowing each sample independently.
- Easy operation; safe and reliable to use.



- It can used in residue analysis, commodity inspection, food, environment, pharmacy and biological product and other industries.

Specifications

Model	NEC160-1
Temp range	RT.+5°C -160°C
Temp accuracy	±0.5℃(@40℃)
Temp accuracy	±1℃(@120℃)
Temp uniformity	±0.5℃
Display accuracy	0.1℃
Time Range	1-99h59min/∞
Heating time	≤15min(from 25℃ to 160℃)
Needle length	150mm
Max gas usage	15L/min
Max gas pressure	0.02Mpa(Gas pin≤ 16pcs)
	0.05Mpa(Gas pin＞1pcs)
Block qty	1
Max power	300W
Voltage	AC220V or AC110V/50~60Hz
Size	260x220x450mm
Weight	7.0kg
Dimension(WxDxH)	260x220x450mm
Package Dimension (W*D*H) (mm)	600x470x460mm
N.W.(kg)	7kg
G.W.(kg)	11kg

Product Accessories

Model	Tube Diameter	Tube Quantity
MD03	10mm	24
MD04	12mm	24
MD05	13mm	24
MD06	15mm	16
MD07	16mm	16
MD08	19mm	12
MD09	20mm	12
MD10	26mm	8
MD11	28mm	4
MD12	40mm	3
MD15	1.5ml centrifuge tube	24
MD16	2.0ml centrifuge tube	24

Nitrogen Evaporator/Sample Concentrator

NEC160-2

Description

NEC160-2 sample concentrator is with microprocessor controlled and PID fuzzy controlled technique. Instead of traditional water bath device, the heat-conducting medium is high purity aluminum. The Test tubes are held in block, and blowing a large number of samples at one time.

Features

- High precision and wide range of temp. control.
- Blowing a large number of samples at a time.
- Blowing each sample independently.
- Easy operation; safe and reliable to use.

Specifications

Model	NEC160-2
Temp range	RT.+5℃ -160℃
Temp accuracy	±0.5℃(@40℃)
Temp accuracy	±1℃(@120℃)
Temp uniformity	±0.5℃
Display accuracy	0.1℃
Time Range	1-99h59min/∞
Heating time	≤15min(from 25℃ to 160℃)
Needle length	150mm
Max gas usage	15L/min
Max gas pressure	0.02Mpa(Gas pin≤16pcs) 0.05Mpa(Gas pin＞1pcs)
Block qty	2
Max power	500W
Voltage	AC220V or AC110V /50~60Hz
Size	260 x 220 x 450mm
Weight	7.5kg

Product Accessories

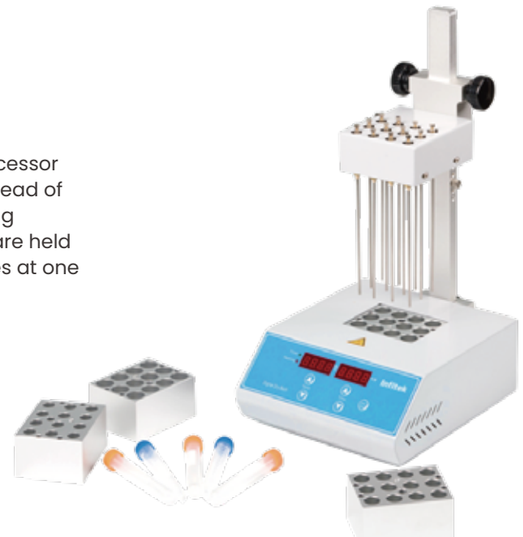
Model	Tube Diameter	Tube Quantity
MD03	10mm	24
MD04	12mm	24
MD05	13mm	24
MD06	15mm	16
MD07	16mm	16
MD08	19mm	12
MD09	20mm	12
MD10	26mm	8
MD11	28mm	4
MD12	40mm	3
MD15	1.5ml centrifuge tube	24
MD16	2.0ml centrifuge tube	24

Nitrogen Evaporator/Sample Concentrator

NEC160-1A

Description

NEC160-1A Sample Concentrator is with microprocessor controlled and PID fuzzy controlled technique. Instead of traditional water bath device, the heat-conducting medium is high purity aluminum. The Test tubes are held in a block, and blowing a large number of samples at one time.



Features

- High precision and wide range of temp. control.
- Blowing a large number of samples at a time.
- Blowing each sample independently.
- Easy operation; safe and reliable to use.

- It can be used in residue analysis, commodity inspection, food, environment, pharmacy and biological product and other industries.

Specifications

Model	NEC160-1A
Temp range	RT.+5°C -160°C
Temp accuracy	±0.5°C(@40°C)
Temp accuracy	±1°C(@120°C)
Temp uniformity	±0.5°C
Display accuracy	0.1°C
Time Range	1-99h59min/∞
Heating time	≤15min(from 25°C to 160°C)
Max vertical travel	200mm
Max gas usage	15L/min
Max gas pressure	0.1Mpa
	1
Max power	300W
Voltage	AC220V or AC110V/50~60Hz
Size	260x220x475mm
Weight	6.0kg
Package Dimension (W*D*H)(mm)	420*420*310
G.W.(kg)	8.5

Product Accessories

Model	Tube Diameter	Tube Quantity
MD50	10mm	12
MD51	12mm	12
MD52	13mm	12
MD53	15mm	12
MD54	16mm	12
MD55	19mm	12
MD56	20mm	12

Nitrogen Evaporator/Sample Concentrator

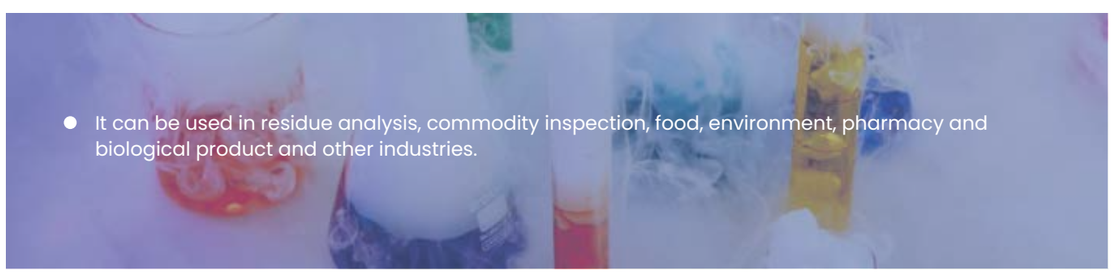
NEC160-2A

Description

NEC160-2A Sample Concentrator is with microprocessor controlled and PID fuzzy controlled technique. Instead of traditional water bath device, the heat-conducting medium is high purity aluminum. The Test tubes are held in a block, and blowing a large number of samples at one time. It can be used in residue analysis, commodity inspection, food, environment, pharmacy and biological product and other industries.

Features

- High precision and wide range of temp. control.
- Blowing a large number of samples at a time.
- Blowing each sample independently.
- Easy operation; safe and reliable to use.



Specifications

Model	NEC160-2A
Temp range	RT.+5°C -160°C
Temp accuracy	±0.5℃(@40℃)
Temp accuracy	±1℃(@120℃)
Temp uniformity	±0.5℃
Display accuracy	0.1℃
Time Range	1-99h59min/∞
Heating time	≤15min(25℃ to 160℃)
Needle length	150mm
Max gas usage	15L/min
Max gas pressure	0.1Mpa
Block qty	2
Max power	500W
Voltage	AC220V or AC110V/50~60Hz
Size	260x220x475mm
Weight	7.5kg

Product Accessories

Model	Tube Diameter	Tube Quantity
MD50	10mm	12
MD51	12mm	12
MD52	13mm	12
MD53	15mm	12
MD54	16mm	12
MD55	19mm	12
MD56	20mm	12

Nitrogen Evaporator/Sample Concentrator

NEC160-1B

Features

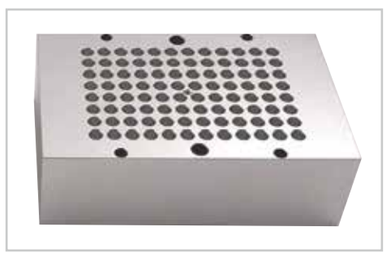
- High precision and wide range of temp. control.
- Blowing each sample independently.
- Blowing a large number of samples at a time.
- Easy operation; safe and reliable to use.

Description

- NEC160-1B Sample concentrator is a high precision temperature control instrument with microprocessor controlled and PID fuzzy controlled technique. It works by blowing nitrogen in the surface of sample which is being heated to accelerate evaporating and separating the solvent in the samples without oxygen. Instead of rotary evaporation instrument, nitrogen sample concentrator can efficiently concentrate a large of samples simultaneously.

Specifications

Model	NEC160-1B
Temp. range	RT+5°C -160°C
Temp. accuracy	±0.5°C(@40°C)
Temp. accuracy	±1°C(@120°C)
Temp. uniformity	±0.5°C
Display accuracy	0.1°C
Time Range	1-99h59min/∞
Heating time	≤15min(25°C to 160°C)
Max. vertical travel	150mm
Max. gas usage	15L/min
Max. gas pressure	0.05Mpa
Block qty	1
Max. power	500W
Electricity	220V or 110V 50/60Hz
External dimension（W*D*H）	310*220*385(mm)
Net weight	7.5kg



Blocks

Model	Test tube diameter	Capacity	Dimension(mm)
MD17	0.2ml PCR plate	96	153*95.5*60
MD18	Elisa plate	96	153*95.5*60

Nitrogen Evaporator/Sample Concentrator

NEC160-1C

Features

- High precision and wide range of temp. control.
- Blowing a large number of samples at one time.
- Blowing each sample independently.
- With special slotting-design block, surface location of concentrated samples can be observed.
- Easy operation; safe and reliable to use.

Description

- NEC160-1C Sample Concentrator (visible) is a high precision temperature control instrument with microprocessor controlled and PID fuzzy controlled technique, its working principle is to blow nitrogen rapid, continuous on the heating surface of the sample. Instead of traditional water bath device, this adopts heat-conducting medium, which is high purity aluminum with good heat transfer. The Test tubes are held in a block, and blowing a large number of samples at one time.

Product accessories

Model	Diameter(mm)	Depth(mm)	Capacity
RC02 027 001	10.5	50	12
RC02 027 002	12.5	50	12
RC02 027 003	13.5	50	12
RC02 027 004	15.5	50	12
RC02 027 005	16.5	50	12
RC02 027 006	19.5	50	12
RC02 027 007	20.5	50	12

Specifications

Model	NEC160-1C
Temp range	RT.+5°C -160°C
Temp accuracy	±0.5℃(@40℃)
Temp accuracy	±1℃(@120℃)
Temp uniformity	±0.5℃
Display accuracy	0.1℃
Time range	1-99h59min/∞
Heating time	≤15min(from 25℃ to 160℃)
Max vertical travel	200mm
Max gas usage	15L/min
Max gas pressure	0.1Mpa
	1
Max. power	500W
Electricity	AC220V or AC110V /50~60Hz
Dimensions	260*220*475mm
Weight	7.3kg