

Cut costs and reach your  
ambitious targets faster



# Incubator Shaker Evolution

Discover the only CO<sub>2</sub> incubator shaker on the market  
with 120 °C disinfection — the New Brunswick™ S41i

# Optimized Growth Conditions for Reproducible Expression Results & Inocula

A reproducible atmosphere leads to faster time-to-market or time-to-publication, thus saving costs and workload.

## Two in one: Shaker platform for suspension cultures plus two optional shelves for simultaneous static cultivation

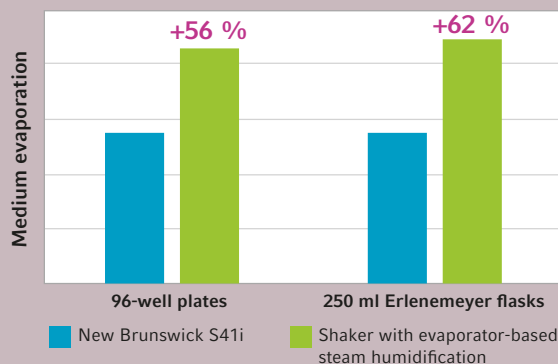
The New Brunswick S41i CO<sub>2</sub> incubator shaker easily adapts to evolving workflow requirements. It provides an accurate atmosphere for initial seeding in T-flasks, screening in plates or small shake flasks, optimization, and inoculum preparation in large shake flasks.



## Effective medium evaporation protection: 95% relative humidity at 37 °C

The New Brunswick S41i includes the proven 3D six-sided direct heating technology applied in Eppendorf CO<sub>2</sub> incubators to minimize medium evaporation. Data shows the effectiveness of the water tray-based humidification to 95% relative humidity compared to evaporator-based steam humidification (see graph).

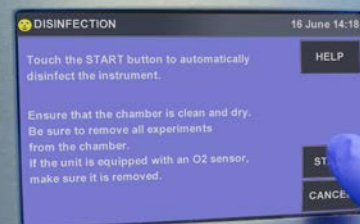
### Medium Evaporation Over 48h



## For enhanced atmosphere integrity – meeting tight CO<sub>2</sub> specifications

Only a few premium CO<sub>2</sub> incubator shakers provide exact spatial and temporal CO<sub>2</sub> control – the critical factor in medium pH control. Smart gas control, a humidity-independent IR CO<sub>2</sub> sensor with auto zero function, and a double-door system in the New Brunswick S41i assure reliable pH control.

- > CO<sub>2</sub> range (control step size): 0.2–20 % (0.1 %)
- > CO<sub>2</sub> accuracy: ±0.2 % (at 5 % CO<sub>2</sub>)
- > CO<sub>2</sub> homogeneity: ±0.1 %



Exacting setpoint control with the easy-to-operate touchscreen, with or without gloves

**Reliable process planning:  
24/7 shaking performance with high loads**

Are unexpected downtime and delayed results not an option for you? Do you have more important things to do than organize repair over the weekend? For more than 70 years, the Eppendorf and New Brunswick brands stand for uncompromising reliability and quality – for your peace of mind. The heavy-duty, triple eccentric shaker drive mechanism is optimized for stable, uniform, and vibration-free motion. Never compromise on the heart of your device.



**Ideal for limited lab space:  
Compact design fits under the bench or stacked in a small footprint**

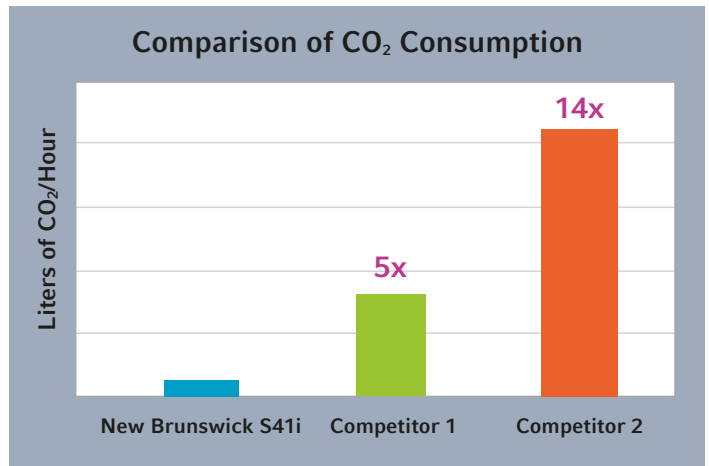
With its small dimensions\*, the New Brunswick S41i fits easily under the bench while still providing high capacity. For example, you can fit 10x/11x 1L Erlenmeyer flasks onto the universal/dedicated platform. Two stacked devices can be used to easily separate batch production or quickly switch from cell growth to protein expression, as often recommended by expression system manufacturers, while taking up the same footprint in your lab as a single device.



\* (W x D x H: 87.5 x 73 x 85 cm / 34.4 x 28.7 x 33.5 in)

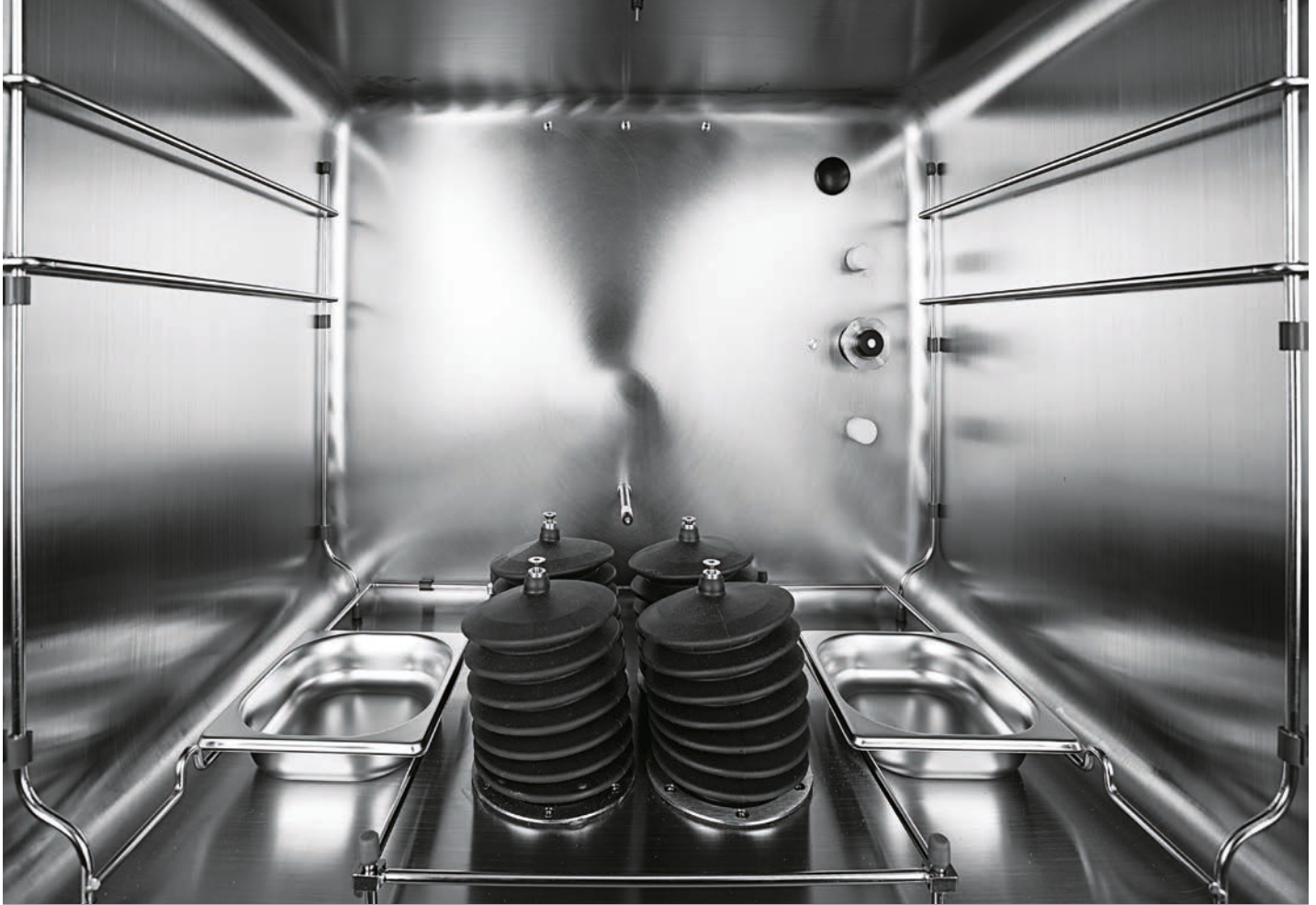
**Save money, change gas cylinders less frequently,  
and support corporate sustainability goals:  
Significantly reduced CO<sub>2</sub> consumption**

CO<sub>2</sub> incubator shakers inject large volumes of CO<sub>2</sub> into the chamber to maintain the correct medium pH. High CO<sub>2</sub> consumption increases costs due to the gas price itself, but it also increases labor costs and shaker downtime due to changing gas cylinders. The New Brunswick S41i requires less CO<sub>2</sub> than other CO<sub>2</sub> incubator shakers – lowering your gas bill, reducing labor costs, limiting downtime, and saving you time & money.



**Expert tip:** Have the manufacturer of your next CO<sub>2</sub> incubator shaker provide actual gas consumption data and measurements. Don't be satisfied with simple, unspecific statements like "low CO<sub>2</sub> consumption".





Wiped quickly and reliably: a deep-drawn chamber with rounded corners and a smooth, seamless surface makes it easy to clean

## Easy Cleaning and 120 °C Disinfection

Are contamination and the resulting sample losses or delays in your processes unacceptable? How much time do you want to invest in regular, thorough cleaning? The fanless New Brunswick S41i comes with solutions to these challenges to protect your lab's high productivity.

### Peace of mind: 120 °C High Temperature Disinfection (HTD)

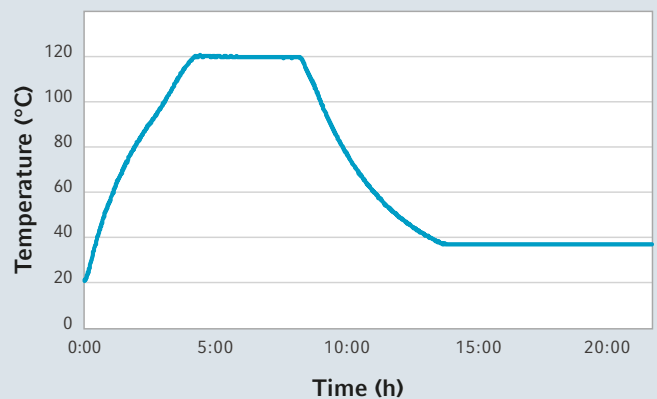
The New Brunswick S41i is the only CO<sub>2</sub> incubator shaker that offers 120 °C disinfection for reliable decontamination – for a fast and safe set-up your device for the next project. After preparation of the chamber interior, the HTD is simply started with push of a button.

### Cleaned quickly, easily, and reliably:

#### No fan inside the smooth, seamless chamber

The New Brunswick S41i has a powerful anti-contamination concept that is especially important for shared lab devices. It includes an easy-to-clean, seamless chamber, 120 °C disinfection, and easy-to-remove single-piece water trays. The strongest contamination protection, however, comes from its fan-less design that effectively reduces the spread of airborne contaminants. It also ensures that a fan box, like those inside standard incubator shakers, does not become a constant source of contamination due to its limited cleanability.

### New Brunswick S41i High-Temperature Disinfection (HTD) Cycle



The HTD feature heats the internal chamber to 120 °C and holds it for 4 hours to effectively eliminate contaminants



Protect your light-sensitive expression media with the proven double-door system established by Eppendorf CO<sub>2</sub> incubators

### Protect your light-sensitive expression media: double door system

Many expression media are light-sensitive and must also be protected from it during expression protocols for optimal performance (e.g. Gibco™ ExpiCHO™ Stable Production Medium). The New Brunswick S41i ensures light-protection with its double door system; it also helps protect the atmosphere inside and reduce CO<sub>2</sub> consumption.

### Getting annoyed by a roaring shaker?

Silence is golden, especially when working next to large laboratory shakers in operation. Maintain a stress-free and comfortable work environment by reducing noise with the New Brunswick S41i. It is one of the quietest CO<sub>2</sub> incubator shakers on the market.



Removable shelf enables shaking of suspension cell cultures while incubating adherent cells under the same conditions



### FAQ: Is temperature ramping necessary for high yield expression protocols?

A temperature ramping protocol is often used to switch from cell growth to protein expression. However, many expression system manufacturers recommend dedicated devices to speed up the process: "We recommend that a dedicated 32 °C incubator be used for shifting the temperature for the high-titer and max-titer protocols: with simply changing the temperature setting of a 37 °C incubator to 32 °C, it may take a long time for the cooling to complete and may limit the effectiveness of the temperature shift. Cooling the incubator by opening the door may result in contamination." (Gibco ExpiCHO Expression System; »Welcome to the future of transient expression«). Stacking of the New Brunswick S41i ensures proximity, thus supporting fast temperature changes without ramping.

## Technical specifications

Temperature	
Range	4 °C above ambient to 50 °C
Control	± 0.1 °C
Stability	± 0.1 °C at 37 °C
CO <sub>2</sub> Range	0.2 to 20 %
Orbit	2.5 cm (1 in)
Shaking speed	25 - 400 rpm (25 - 250 rpm when stacked)
Dimensions	
Platform	612 x 356 mm (24 x 14 in)
Overall (W x D x H)	875 x 730 x 850 (34.4 x 28.7 x 33.5)
Net weight	154 kg (340 lb), with standard features
Ports	25 mm access port for instrumentation/probes, USB for communication/data logging
Installation position	Floor, under bench or double stacked
Included accessories	Stainless steel water trays, removable

## Ordering information

Description	Order no.
<b>New Brunswick™ S41i Incubator Shaker, 120 V, 60 Hz</b>	S411120010
<b>New Brunswick™ S41i Incubator Shaker, 230 V, 50 Hz</b>	S411230011
Stacking kit	P0628-6502
Additional perforated shelf	P0628-6181
<b>Interchangeable platforms, 612 x 356 mm (24 x 14 in)</b>	
Universal platform	M1334-9920
125 mL Dedicated platform	M1334-9921
250 mL Dedicated platform	M1334-9922
500 mL Dedicated platform	M1334-9923
1 L Dedicated platform	M1334-9924
2 L Dedicated platform	M1334-9925
2.8 L Dedicated platform	M1334-9926
4 L Dedicated platform	M1334-9927



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