



CO₂ incubators

Precise and protected culturing

Vios iDx 165 CO₂ Incubators

Features

- Ergonomic door design with integrated 7-in. touchscreen display and electromagnetic door lock.
- Connectivity-ready design: front access USB port, optional 4-20 mA signal output or OPC-UA for 21 CFR compliance.
- Thermo Scientific™ Cell Locker™ Systems are available to provide enhanced protection, stability and flexibility for sensitive cells like organoids, neural cell types, microfluidic systems, or viral vector derivatives.

Vios iDx CO₂ Incubators offer proven protection for your sensitive cell culture. Proprietary technologies support enhanced environmental control and rapid recovery to set conditions after opening the chamber doors. Thermo Scientific™ THRIVE™ Active Airflow, in-chamber sensors and HEPA filtration system, and an integrated, protected humidity reservoir work harmoniously to provide an ideal environment for culturing cells. Thermo Scientific™ Steri-Run™ high temperature sterilization cycle offers 12-log sterility assurance level, proven to eliminate all microorganisms. Standard incubator options include a choice of 100% copper or electropolished stainless steel interior, oxygen control, and TC180 or IR180Si CO₂ sensors.



**Thermo Scientific™ Vios™
iDx 165 CO₂ Incubator**

Rapid recovery for cell growth

The in-chamber technologies work in tandem to create an ideal cell growth environment. THRIVE Active Airflow technology circulates the entire chamber air volume every 60 seconds, ensuring homogenous growth conditions and fast recovery of all parameters – including temperature, relative humidity (figures 1, 2) and supports air quality and gas distribution.

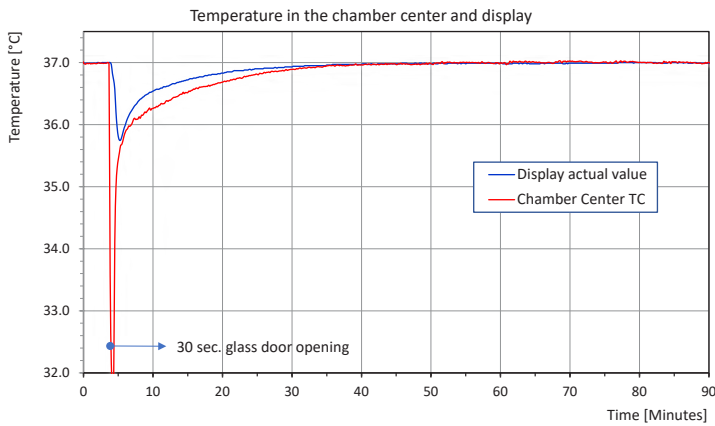


Figure 1. Temperature inside the Vios iDx CO₂ Incubator recovers quickly following a 30 second door opening, with no overshoot.

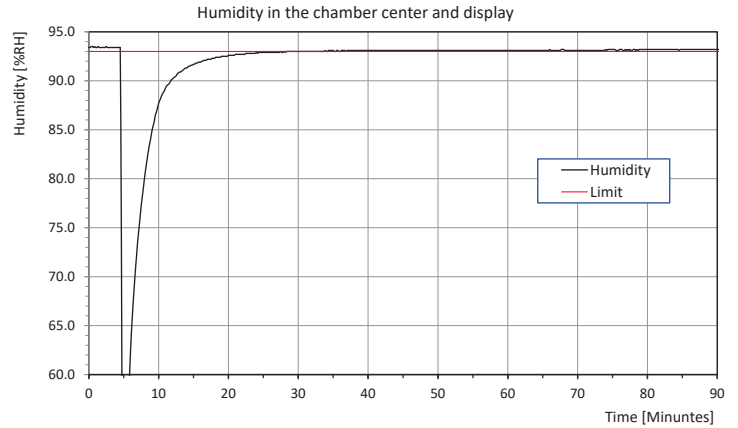


Figure 2. Relative humidity inside the Vios iDx CO₂ Incubator recovers in less than 10 minutes following a 30 second door opening.

In-chamber HEPA filtration technology protects cultures from microorganisms and particulates of any size, providing ISO Class 5 clean room air quality conditions in 5 minutes following a 30-second door opening (figure 3). HEPA filters for Vios iDx models are good for one year and are easy to replace with no tools needed.

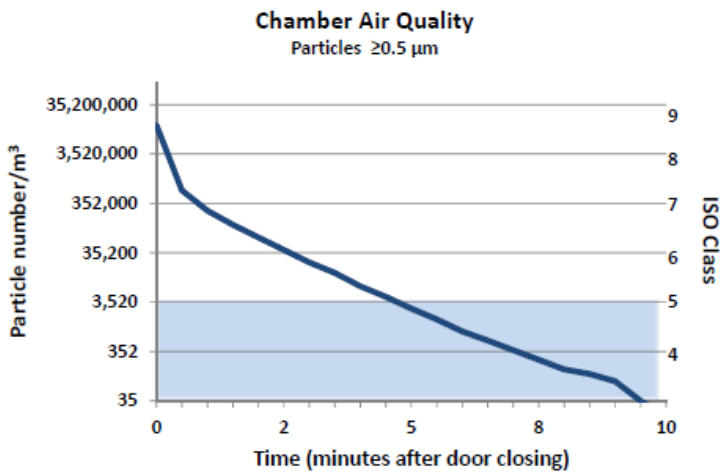


Figure 3. The particulate count inside the Vios iDx CO₂ Incubator drops to ISO Class 5 levels in 5 minutes following a 30 second door opening.

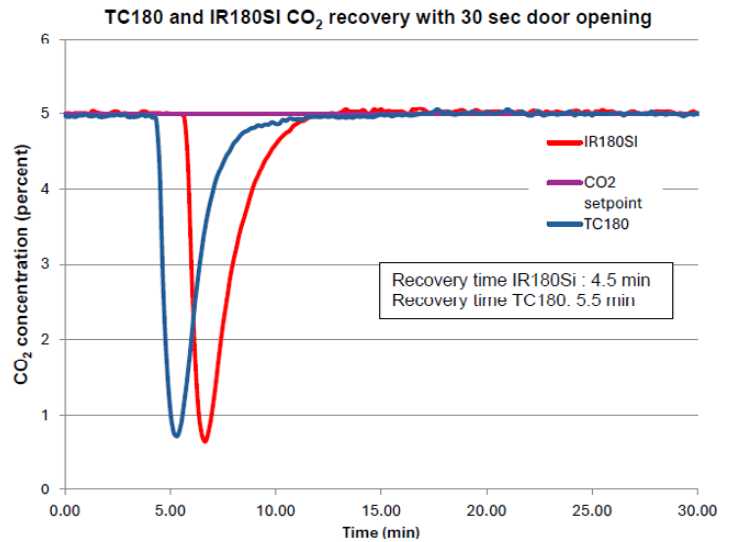


Figure 4. CO₂ recovery occurs between 4.5 and 5.5 minutes following a 30 second door opening.

Proprietary Thermo Scientific™ CO₂ sensors (choice of IR180Si or TC180 sensor) are positioned in the incubator chamber to precisely monitor and respond to conditions.

Vios iDx 165 L CO₂ Incubator technical data and specifications

Specification	Description
Application and environment	
Application	Culture of cells from tissues or stocks
Ambient environment	<ul style="list-style-type: none"> • +18°C to +34°C; stacked, to 28°C • Relative humidity up to 80 % • Draft-free and dry • No direct exposure to sunlight • Sufficient ventilation
Temperature control range	Ambient +3°C to 55°C
Temperature deviation from set, over time at 37 °C (figure 5)	+/- 0.1°C
Temperature deviation from set, spatial at 37 °C	+/- 0.3°C
Heat transfer to environment at 37 °C	0.06 kWh/h
Heat transfer to environment during sterilization	0.59 kWh/h
Gas quality	Minimum 99.5 % pure
Gas pressure	0.8 - 1 barr (11.6-14.5 PSI)
Water quality: sterilized distilled water or with resistivity of	50 kΩ-cm to 1 MΩ-cm
Dimensions and construction	
See figures 6, 7	
Exterior dimensions (w x h x d)	637 mm x 900 mm x 880 mm
Interior dimensions (w x h x d)	470 mm x 607 mm x 576 mm
Inner volume	Approx. 165 liters
Shelves (dimensions)	423 mm x 465 mm
Shelves (supplied, max)	3, 11
Shelf loading capacity, max	10 kg
Overall loading capacity, max	30 kg
Weight including all parts	82 kg
Material components	
Exterior	Galvanized, painted sheet 1.4016
Total power	≤ 1,000 W
Inner chamber	
Shelf support rails	Electropolished 304 stainless steel (1.4301) or 100 % copper
Shelves and supports	
Water drain	100% copper
Inner door	Sodium silicate glass
Elastomers, general	Silicone
Cell Locker chambers	Polycarbonate

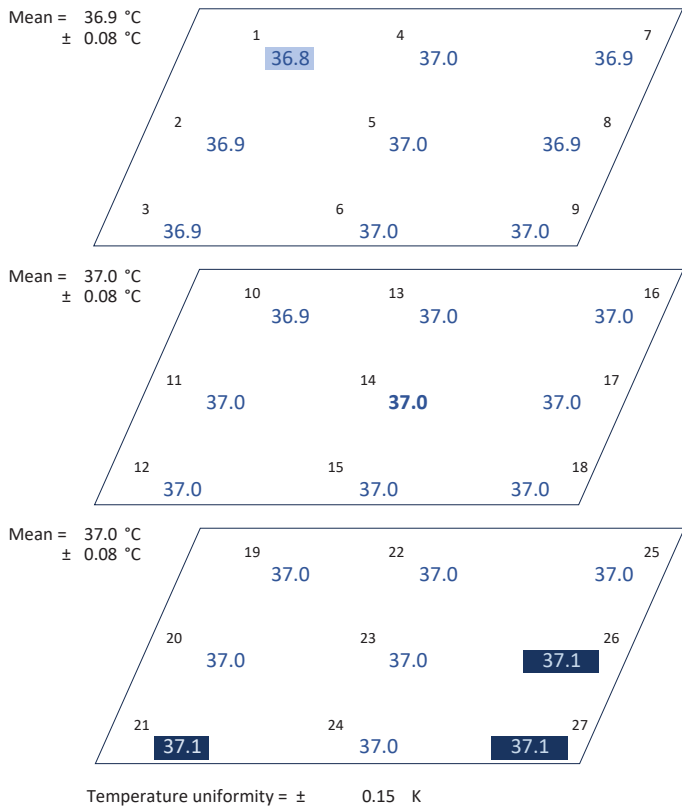


Figure 5. Temperature deviation = +/- 0.3 K

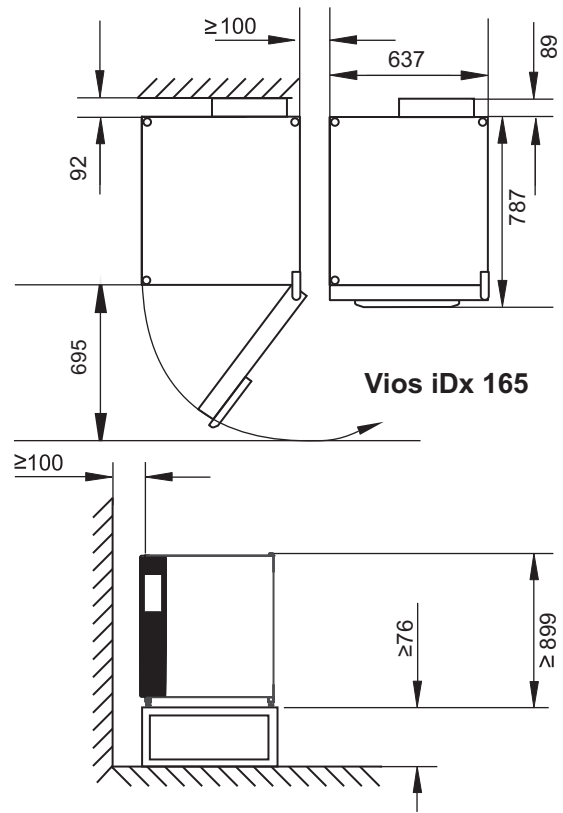


Figure 6. Space requirements for the Vios iDx 165 CO₂ Incubator. Overhead view (top) and front view (bottom) with dimensions in mm.

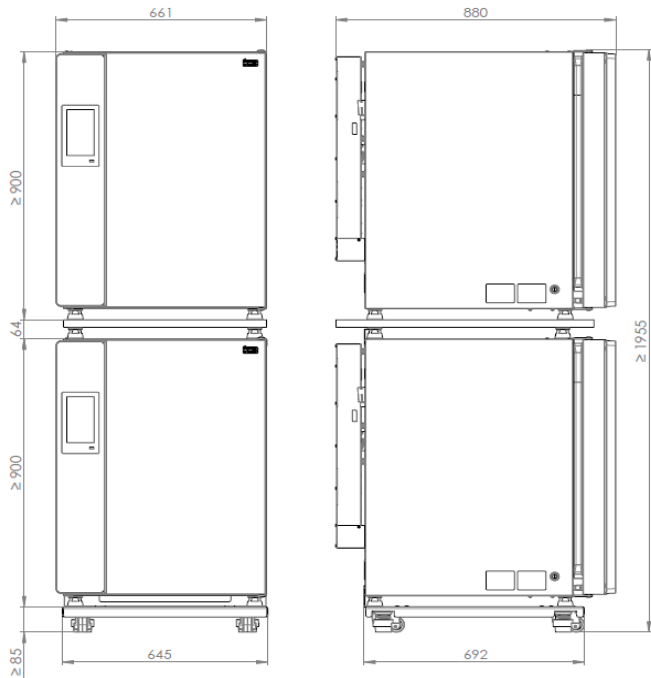


Figure 7. Vios iDx CO₂ Incubator in stacked configuration. Bottom incubator on 85 mm stand with casters, stacking adapter kit on top with second incubator resting on stacking platform. Front view (left) and side view (right) with dimensions.

Recommended maintenance

Daily	<ul style="list-style-type: none"> • Check gas supply system • Check water supply
Weekly	<ul style="list-style-type: none"> • Drain water and replace with fresh sterilized distilled water
Bi-weekly	<ul style="list-style-type: none"> • Clean and disinfect interior and exterior
Quarterly	<ul style="list-style-type: none"> • Check gas calibration • Operate Steri-Run Sterilization Cycle • Operate the Auto-Start cycle
Annually	<ul style="list-style-type: none"> • Check the door gasket integrity • Replace the HEPA filter • Replace the gas inlet filter(s) • Schedule technical service inspection

Recommendations for cleaning and disinfection

We recommend cleaning the incubator weekly, and cleaning spills immediately. Use mild dish soap in distilled water and rinse with clear distilled water.

For manual chemical disinfection, we recommend only 70% ethanol or use of a disinfectant with 10% or less quaternary ammonium, followed by 70% ethanol to remove any residues. Never use any disinfectant containing sodium hypochlorite (chlorine bleach). More information can be found in the ebook: [Mastering CO₂ incubator care: a comprehensive guide to optimal cell culture conditions.](#)



Learn more at thermofisher.com/viosidx

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