THERMO SCIENTIFIC HERACELL VIOS 160i CO2 INCUBATORS
WITH CELL LOCKER SYSTEM
SOLE SOURCE SPECIFICATIONS

- The incubator provides a reliable, clean and easy-to-use in vitro environment, featuring both proven event based and continuous contamination control solutions for optimized growth and security.

- The incubator features a 165 L chamber with interior components constructed with choice of electro polished stainless steel or 100% copper and 6 door gas tight screen with modified shelving to accommodate the Cell Locker system.

- The Cell Locker system features up to six individual, autoclavable polycarbonate chambers that divide the incubator chamber, isolating individual cell types or projects.

- Each Cell Locker has dual 0.2 \( \mu \)m membrane filters that permit air circulation but exclude microbial contaminants to protect from cross contamination.

- When one Cell Locker is opened, the other Cell Lockers maintain stable conditions, preserving the in vitro environment. Conditions remain stable within these spatial deviations - temperature +/-0.3°C, humidity +/-3%, and CO\(_2\) +/-0.2%. For consistent results, the uniformity in each Cell Locker is ±0.3°C.

- Different cell types, samples, users or projects can be segregated within shared incubator space with the Cell Locker system. Each Cell Locker holds 9 each T-75 cell culture flasks, 20 each 6-well plates, or 24 each 96-well plates. Dishes and flasks can be removed individually on a work tray or inside the entire Cell Locker with optional transport cover, thus protecting samples from outside air.

- The incubator features a narrow space saving and easily stackable cabinet design with small relative footprint not to exceed 26” width, 36” height or 35” depth and reversible door swing, to conserve valuable laboratory space and maximize flexibility of placement within a variety of laboratory environments.

- Incubator features sturdy modular shelving and supports that can be readily assembled and removed without use of tools, to facilitate simplicity of cleaning or adjustment.

- Unit incorporates a direct air jacketed heating design featuring high quality thermal jacket insulation and Thermo Scientific™ THRIVE™ active airflow, fan assisted circulation, allowing recovery under 10 minutes of all parameters (temperature, CO\(_2\), and relative humidity) following a 30 second door opening.

- The incubator incorporates an integrated humidification design, a water reservoir that is in direct contact with a heated surface to maximize humidification efficiency as opposed to removable water pans which impede heat transfer. Direct humidification maintains high humidity conditions for optimal cell growth with recovery in 10 minutes or less after a 30 second door opening and eliminates of desiccation caused by media evaporation.
• The humidity reservoir maximizes relative humidity without condensation, ensuring a dry inner chamber to prevent a breeding ground for contaminants. Covered, integrated humidity reservoir design provides high humidity but restricts any excess to the reservoir, ensuring a condensation-free chamber. The cover also helps to keep contaminants from breeding in the water.

• Unit features a water level sensor and alarm to alert user when humidification water refill is required. Water level is monitored and displayed on the iCAN touch screen at all times with advanced notice of refill needed.

• Humidity reservoir may be filled without the removal of shelves or cultures and easily drained through built-in copper drain.

• CO₂ and optional N₂/O₂ gases are pre-humidified before entering the chamber, providing a more constant, uniform environment.

• All control and measurement probes and sensors are located inside the culture chamber to provide true and accurate values and foster faster parameter recovery times than is possible with sensors remotely located outside the chamber.

• The incubator includes an independent over-temperature protection function with independent back-up temperature sensor, to protect valuable cultures from potential damage in the event of an unexpected failure in the primary temperature control system.

• Unit is available with bulbless IR CO₂ gas sensor technology. The single beam, dual wavelength IR180Si incorporates silicon MEMS emitter as IR source with internal auto calibration for longer, stable operation than a traditional IR sensor.

• An in-chamber HEPA filtered airflow system within the culture environment continuously filters the entire chamber air volume every 60 seconds. This system ensures continuous protection against unwanted microbial contaminants that could enter during routine door openings, thus minimizing risk of product loss or inconvenient downtime.

• Outstanding ISO 5 clean room air quality is achieved within the culture chamber within 5 minutes following a 30 second door opening, minimizing the opportunity for contaminants to settle on interior surfaces.

• Unit incorporates exclusive Thermo Scientific™ iCAN™ touch screen user interface, a bright, easy to read VGA control module display that provides true interactivity by enabling selection and viewing of all basic parameters. Access to daily operation is simplified by enabling selection and viewing of all basic parameters as well as specific performance or operational data upon request, convenient on-screen operational prompts, and user specific electronic security.

• Unit allows choice of display languages (French, English, Spanish, German, Italian, Japanese, Mandarin) to maximize convenience for all users, while minimizing the opportunity for user error.

• The incubator features on-board graphics capability, via the iCAN controller, enabling users to obtain historical performance by parameter or specified time periods to allow
greater understanding of culture growth dynamics and usage patterns, enhancing research results.

- iCAN interface logs and displays all user interactions with the incubator (e.g. door openings, parameter changes) facilitating the identification of important changes in the culture environment.

- The incubator incorporates automated Thermo Scientific™ Steri-Run™ sterilization cycle overnight (under 12 hours) high temperature sterilization cycle that has been proven effective in contamination control against bacteria, molds, resistant bacterial spores and mycoplasma by microbiological testing and temperature mapping ensuring full chamber sterilization.

- During the Steri-Run cycle, all chamber surfaces reach sterilization temperature of 180°C. The 90 minute sterilization time is proven to be twice the time required to eliminate biological indicator organisms, meeting the 12 log Sterility Assurance Level overkill sterilization standard prescribed by the 2015 U.S Pharmacopeia and others.

- The unit incorporates high quality microbiological filters on all gas inlets, outlets and sample ports, to eliminate the potential of contamination entering the chamber from these points.

- The incubator includes a standard USB port with software for data downloading and reporting in Windows Excel™ format.

- Optional 4-20mA signal output is available for interfacing with external data collection systems, such as our Smart Vue wireless system which is ideal for GMP environments using external sensors and CFR-21 compliant software package.

- Incubator is CSA certified and CE marked, demonstrating that stringent testing procedures have been undertaken by independent agencies to provide the customer’s best assurance of unquestioned quality and suitability for function.