

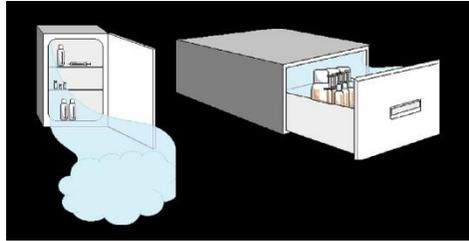
# The MicroCool™ Refrigerator

*Whisper™ Quiet Technology / Drawer Design / Temperature Proficient*

## Statement of Benefits



**Specially designed brackets =  
easy install for under counter  
mounting**



**Old Way vs. New Way**



**Build-In = Space Savings**

### Summary:

The MicroCool™ Refrigerator is the smallest, medical-grade, drawer style refrigerator and designed specifically for use in all hospital departments, nursing homes, integrative medicine facilities and palliative care centers. The MicroCool™ Refrigerator is space saving and the quietest refrigerator on the market. Our proprietary Whisper™ Technology allows the compressor to run at less than 39 decibels. The standard, run of the mill, medical-grade refrigerators runs at 50 decibels and above. The recommended decibel level for patient development (preemies and newborns) as well as for adult patient recovery is 45 decibels and below! The drawer design allows for quick cooling recovery and temperature proficiency.

### Size:

Due to its micro-compact size, the MicroCool™ Refrigerator is versatile in nature allowing hospitals the following installation options: under counter mount, built-in to cabinetry, countertop mount, or in one of our custom furniture options.

### Quiet:

The MicroCool™ Refrigerator is **the quietest medical grade refrigerator on the market, as it never exceeds 39 decibels. Typical under-counter medical grade refrigerators run at decibel levels of 50 and above.** The recommended limit for decibels in the NICU is 45, as per the 2013 NICU Standards for Acoustic Environment & American Academy of Pediatrics. This is stated in a great article from [The Journal of Perinatology](#) and edited by Neonatologist Dr. Robert D. White. *Excerpt: Pg. S13, Standard 27: Acoustic Environment*

*“Infant rooms (including airborne infection isolation rooms), staff work areas, family areas and staff lounge and sleeping areas and the spaces open onto them shall be designed to produce minimal background noise and to contain and absorb much of the transient noise that arises within them.*

- *In **infant rooms and adult sleep areas**, the combination of continuous background sound and operational sound shall not exceed an hourly Leq of 45 dB and an hourly L10 of 50 dB, both A-weighted slow response. Transient sounds or Lmax shall not exceed 65 dB, A-weighted, slow response in these rooms/areas.*

Excess noise and stimulation in any hospital department does not create an ideal environment for healing a child, adolescent, or adult. An environment with excess noise, stimulation, and lighting can cause the healing process to take longer, extending hospital stays and increasing healthcare costs.

## **Drawer System:**

The MicroCool™ Refrigerator is a drawer system, not an “open door” refrigeration system. Science tells us **hot air is less dense and rises, while cold is denser and sinks**. The MicroCool™ Refrigerator is able to not only **maintain temperature**, but **recover extremely fast** while **using less energy**.

When the MicroCool™ Refrigerator’s drawer is opened, the **cold air swirls around the bottom of the tray, but doesn’t go anywhere**. When a typical door refrigerator is opened, all the cold air rushes out to the ground. This is why the MicroCool™ Refrigerator is able to hold its temperature better than other refrigerators, thus not causing out of range temperature alarms.

**Most refrigerators on the market are required to be 30% full at all times to maintain their temperature and perform optimally**. The MicroCool™ Refrigerator does not require the refrigerator to be 30% full, because it is able to keep cold air inside the drawer and regulate temperature efficiently. Other medical-grade, counter top or under counter refrigerator manufacturers require that at least 30% of the refrigerator be full at all times to maintain temperature and perform optimally. This is because the open door-system is unable to regulate temperature efficiently.

## **Temperature Dial:**

The MicroCool™ Refrigerator is not limited to holding just breast milk; **it can be used in all areas of a medical facility**.

Breast milk is considered “liquid gold” and is very delicate, thus requiring a much tighter and specific temperature range when being stored. The **ideal range for breast milk is 2.0-4.0 degrees Celsius**. The maximum temperature setting for a refrigerator storing breast milk should be no more than 4.5 degrees Celsius.

The MicroCool™ Refrigerator temperature range is: -2 to 12 degrees Celsius, allowing it to be used for other applications in medicine. ***It is great for use in the ALL hospital departments, integrative medicine facilities, nursing homes, rehabilitation facilities and palliative care centers.***

## **Desiccant pack:**

The MicroCool™ Refrigerator uses a desiccant system, which **absorbs moisture and keeps unwanted bacteria from growing**. Desiccants pull naturally occurring water vapor out of the atmosphere, therefore preventing moisture from frosting, and keep unwanted bacteria from growing in the unit. Each refrigerator must have a desiccant in it at all times.

Many hospitals throughout the country are experiencing excessive frosting in the back of their refrigerators. This requires Biomedical Engineering or Facilities Management to manually defrost the refrigerators, costing hospitals time and money. **The moisture coming from the compressor requires a drip-tray, or condensation-tray in conventional medical-grade refrigerators** to collect the excess moisture. **Naturally, anything that collects moisture in a dark place, harbors bacteria and mold. This is not ideal for medical setting**. The design of the MicroCool™ Refrigerator’s desiccant system makes it ideal for a medical setting as there is no drip/condensation tray to purchase and clean on a regular basis. The desiccant ensures that any moisture coming from the compressor is taken care of leaving a dry environment.

## **Easy to clean:**

**The MicroCool™ Refrigerators are very easy to maintain**. The only maintenance required, is that the hospital vacuums the vents annually or per hospital policy. It is recommended that the drawers be cleaned or wiped out at terminal cleaning, or per hospital policy. The drawers can be wiped down with a Cavi/Sani/Clorox Bleach wipe. The drawer must be completely dry before returning it to the refrigerator. A new desiccant pack should be placed in the desiccant holder once every 30 days.

## **Installation Options:**

The MicroCool™ Refrigerator can be set on a counter, mounted under a counter, built-in to cabinetry or put in one of our Custom Furniture pieces (Microstand, Nightstand, Procedure Cart or Custom Power Cart). The under-counter mounting is convenient for saving space and is the perfect height for accessibility. Specifically designed brackets allow for easy installation under the counter. Refer to MicroCool™ Refrigeration Solutions brochure examples of various installation options. Your Creche Design Consultant can provide you specification sheets for any and all installation options.

## **Temperature Monitoring:**

Hospitals are required to monitor their refrigerators either manually, or by having a system data logger that records the temperature at least once every 24 hours, if not more. This is required by many accreditation organizations.

## **If a hospital has a temperature monitoring system already in place and used throughout the hospital, the MicroCool™ Refrigerator can easily be connected to the hospital's system.**

Creche Innovations offers a **Wi-Fi Remote Temperature Monitoring System** that monitors all refrigerators within the unit, and downloads the data from each refrigerator and is customized to download as frequently or as infrequently as a hospital wishes. Refrigerators can be monitored at the front desk, in a supervisor's office, in Bio-Med and/or Facilities Management.

## **Safety & Warranty Certifications:**

- The MicroCool™ Refrigerator is a Medical-Grade refrigerator, therefore not requiring FDA 510K certification.
- The MicroCool™ Refrigerator is **NFPA 99 Compliant** for Health Care Facilities.
- The MicroCool™ Refrigerator is **certified by (ETL) Electrical Testing Labs**.
- The MicroCool™ Refrigerator comes with a standard 2 year warranty.

## **Additional Information:**

Products of Creche Innovations and related supplies are protected by one or more patents, patents pending, and/or trademarks. *Creche Innovations reserves the right to change specifications at any time without obligation.*

For any additional specifications or refrigeration questions, please contact:

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