



Ultra-low Temp Suites

Each suite is custom designed to your explicit size, temperature, and electrical-controls specifications. It also utilizes multi-door vaults ranging in temperature from -60 to -80°C —located within -20° to -40°C spaces—that are designed to share a central cascade refrigeration system.

MECHANICAL SYSTEM

- Mechanical refrigeration ‘skids’ serve single or multiple freezer vaults inside walk-in freezers, providing extra protection for your valuable assets
- Each freezer or freezer system is served with a small number of compressors/ compressor skids simplifying maintenance effort compared to “freezer farms”
- Refrigeration skids are designed to be compact, yet offer generous service spacing. Strategic thermocouple locations and display panel allow for temperature readings important for servicing. In addition, total refrigeration system monitoring (temperature and pressures) can be provided and synced with a data historian to allow viewing over time which can be used for preventative maintenance
- Semi-hermetic or scroll compressor systems are available for most applications
- All refrigerants used are non-CFC (non-ozone depleting). Newer low GWP refrigerants may also be supplied for some systems
- Super-high efficiency oil separators remove 99.9 percent of circulating oil, which is essential for trouble-free compressor operation
- Thermostatic expansion valves allow precise metering of refrigerant
- Dual, identical mechanical systems alternate regularly for even wear and automatically switch systems if a system fault is detected. This redundancy greatly increases product protection
- Each refrigeration system provides 100% of the cooling (2N) required to maintain the storage temperature. Systems may also operate concurrently when large product loads or long door openings are required
- Energy saving components are supplied where available for use. Overall energy consumption is drastically reduced
- The option of integrated LN2 backup in the event of power loss provides unsurpassed peace-of-mind

**Infinitely
Precise.
Ultimately
Reliable.**

ELECTRICAL/CONTROL SYSTEM

A grey enamel NEMA 4/12 or optional NEMA 4X stainless-steel enclosure contains all branch power, switching, and control circuits. This panel serves multiple freezers from a single central control location and has numerous advantageous.

- The front features a heavy-duty insert section with Lexan door and key lock. The controls, optional GMP FDA 21 CFR11 Compliant recorder, and non-fade labeling can withstand light spray down
- The panel is third-party listed to UL standards, and National Electric Code (NEC) is strictly followed for internal and external panel wiring
- Various control systems are available including Allen Bradley, Siemens and Environmental Specialties' CCS System. These control systems allow for precise temperature control and customer alarm notifications with integrated connectivity to your BMS
- Multiple control systems and power connections can be provided for redundancy
- Alarms are indicated by an LCD screen or LED display and other highly visible, panel-mounted indicators; audible alarms are also standard. Dry contact outputs are standard for temperature alarm limits and may be provided by request for other indications
- Door ajar and man-in-box alarms are available for safety
- Energy saving LED lights are provided in occupied spaces and available in non-occupied spaces

