

## Archival Storage Rooms

Archival storage rooms are used to store items that require unique environmental conditions, such as: books, posters, maps, charts, architectural records, still and motion pictures, negatives, x-rays, microfilm, slides, tapes, disks, paintings, sculptures, ceramics, metallic items, bones, fabrics, and more.

### STANDARD FEATURES

- Designed and constructed to comply with National Archives and Records Administration (NARA) standards
- Each space is designed for the precise temperature and humidity level required for preservation of the media or artifact being stored
- Temperature ranges of -18 to 16°C with volumetric uniformity as tight as  $\pm 2^{\circ}\text{C}$
- Relative Humidity controlled to 30% or lower
- All make-up air brought into the room is purified to control damaging oxidants
- Dehumidification by fully regenerative, non-dusting, desiccant dehumidifiers by Munters
- Air-cooled or water-cooled condensing units
- Fully accessible control panel to efficiently and securely house all controls, alarms, recording devices and communication networks
- QA/QC Bench Testing of complete control panel and electrical devices prior to shipment
- Control Panel certification built to MET, UL 508A
- Conformance to FDA 21 CFR11 requirements for data recording, audit trails of controller settings modification, alarm history logs, operator event logs and secure file transfers
- Touchscreen system control of chamber parameters with 0.1°C resolution for temperature and 0.1% resolution for RH
- Electrical wiring to National Electric Code (NEC)
- Vapor proof LED, fluorescent, incandescent, or high-bay light fixtures
- Factory leak testing of all refrigeration assemblies prior to shipment

**Infinitely  
Precise.  
Ultimately  
Reliable.**

**STRUCTURAL/ELECTRICAL OPTIONS**

- Chamber panels including installation built to Factory Mutual 4880. (FM4880)
- Insulated panel finishes for walls and ceilings are embossed/smooth white galvanized steel and stainless steel. Available floor panel finishes are galvanized and stainless steel.
- 4-20mA DC retransmission, RS 485, ethernet.
- Control Panel certification built to CSA 22.2
- Controls such as Allen Bradley, Siemens, or others available as requested.
- Complete 100-percent redundant control panel systems
- Electrical wiring to National Electric Code (NEC) standards for Class I Division I or II environments
- Maximum product security through dead-bolts or locking bars, and security locking mechanisms furnished with internal emergency relief.
- Open wire free standing and top track shelving available.
- Standard and custom shelving, casework, and chromatography support racking.
- Heated Thermopane view window for door or wall panels
- Heated Access ports and pass throughs
- Surface mounted vapor proof duplex outlets, plug mold, or recessed outlets
- Vinyl floor mat runners in open areas or seamless floor covering over complete area
- Exterior/interior door ramps
- Emergency lighting systems

**MECHANICAL OPTIONS**

- Perforated Lexan ceiling designed to deliver low velocity air uniformly throughout the entire chamber
  - Approaches laminar flow
  - Lay-in tiles are prismatic for light diffusion
- Complete, stainless-steel finish for ceiling plenum and evaporator housing, including drain pan
- Copper, phenolic coil with coated evaporator-fin construction for corrosive environments
- Exhaust fans with stainless-steel filtered air intake or dampered connection ports for host building supply and return air
- Base level dehumidification with a proportional reheat package
- Extended range dehumidification by BES-developed and field-proven proportional air volume regenerative desiccant drier
- Extended range humidification by independent passivated stainless-steel steam generator, designed for pure water supply
- Point-of-use water purification systems for steam generator supply water
- Complete, 100-percent redundant backup refrigeration systems with automatic switch over
- Vertical wall plenum configuration for increased chamber loads requiring greater evaporator coil surface area typical of industrial applications
- Conditioning packages designed to use chilled water systems in host building for chamber cooling
- Remote air handlers to remove mechanical components from chamber interior and increase air volume

