



Experience ^{the}
Professional
Difference

INSULATED
STRUCTURES™

OVERVIEW

EXPERIENCE

We have many years experience in Designing, Supplying and Installing a full Service Product. Insulated-Structures can Design, Supply and Install any size, shape, temperature and humidity conditions you may require. Our combined experience also provides you with the performance of true professionalism.

ADVANCED TECHNOLOGY

Using the latest state of the art technology we can achieve precise control of both temperature and humidity. Exact degree of tolerance is contingent on user's requirements; extreme tight temperature control down to half of one degree centigrade, (plus or minus from set point) is obtainable.

PERFORMANCE

Turn-Key Projects, Quick Availability, Multiple Installation Crews for on time delivery erection across the country, and internationally.

WARRANTY

We provide a 15-Year panel warranty as an exclusive standard feature.

ROOM CLASSIFICATIONS AVAILABLE

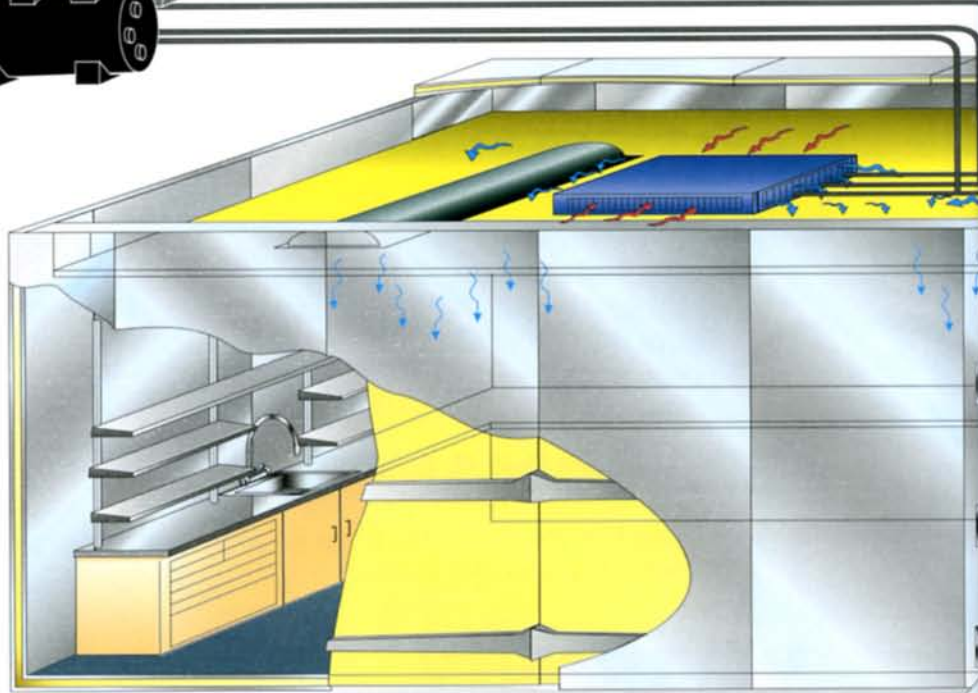
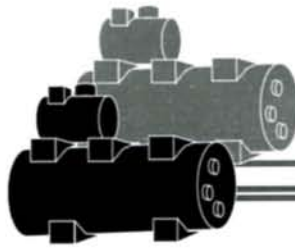
- ENVIRONMENTAL ROOMS
- COLD ROOMS +4 C.
- STABILITY CHAMBERS
- INCUBATORS/WARM ROOMS
- EXPLOSION PROOF ROOMS
- HAZARDOUS MATERIAL STORAGE
- ULTRA SUB-ZERO CHAMBERS
- MULTI COMPARTMENT PROCESS ROOMS
- VACCINE TESTING/STORAGE ROOMS
- CONTROLLED TEMPERATURE WAREHOUSES
- BLOOD BANK STORAGE
- HUMIDITY/DEHUMIDIFICATION CHAMBERS
- RESEARCH/TESTING CHAMBERS
- FREEZE/COLD/WARM WAREHOUSE STORAGE
- MUSEUM/ARTIFACT STORAGE
- FILM STORAGE
- CHEMICAL DETECTION CHAMBERS

AVAILABLE SERVICES

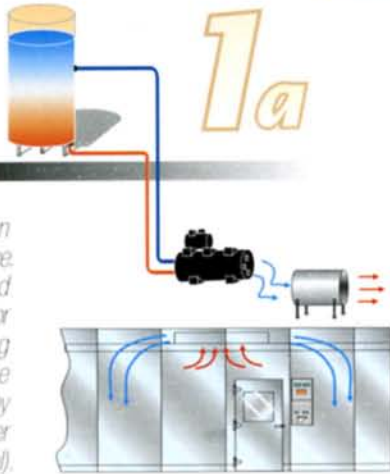
- Specifications
- Drawings
- Budget quotations
- Jobsite field dimension confirmation
- Coordination of installation

ENVIRONMENTAL INSULATION

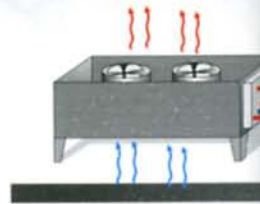
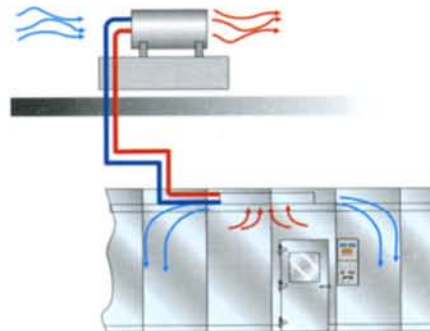
- 1a: **Water-Cooled Remote Condensing Unit**
- 1b: **Air-Cooled Condensing Unit**
- 2: **Air Cooled, Roof Mounted.**
- 3: **Remote Air-Cooled Condenser for Multiple Room Layouts**
- 4: **Standard Ventilation**
- 5: **Hazardous Substance Evacuation Ventilation**



Water-cooled remote condensing units: This system is commonly used in new construction, where cold rooms are in construction configurations that allow for cooling water to remove heat from the condensing unit. Depicted here, a roof mounted water-cooling tower recirculates the cooling water down to the condensing unit. The unit may typically be mounted on top of the cold room; however, it may also be mounted in an adjacent mechanical space. Refrigerant tubing is piped to the cold room evaporator to complete the cooling process. (Temperature control is still governed by our exterior mounted user accessible control panel).



1a



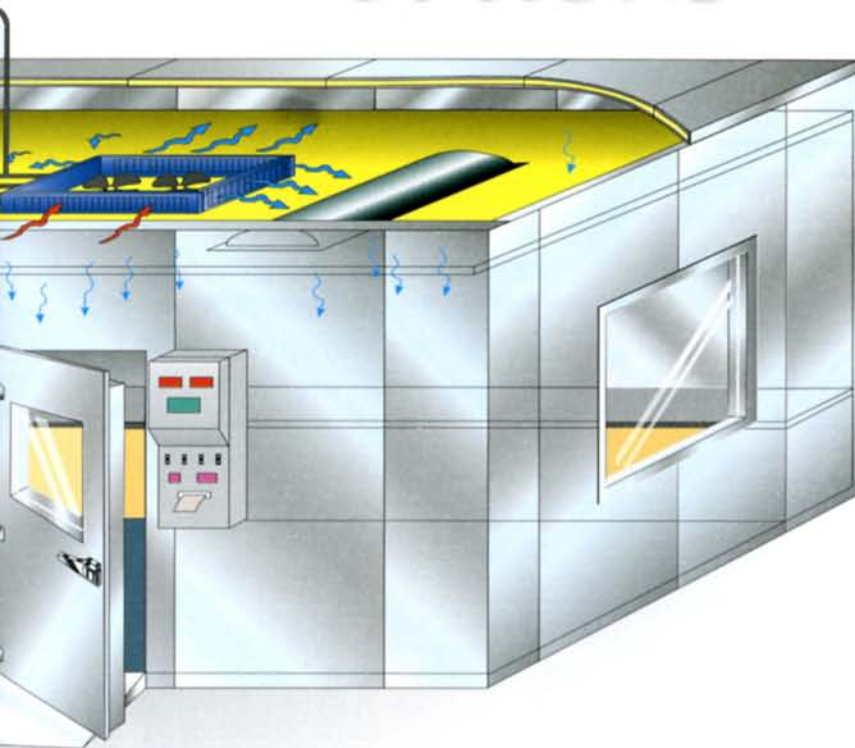
Air-cooled condensing unit removes heat by means of ambient air surrounding the condensing unit. In these applications, it is important to insure adequate free air to properly cool the unit (contact factory for further guidelines). Mounting the air cooled condensing unit outdoors usually allows sufficient air flow, (consult your local representative for more details regarding proper mounting, supports etc.)

1b

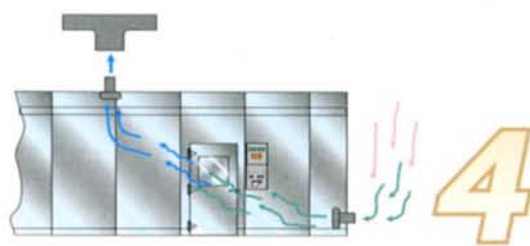
Roof mounted air-cooled condensing units allow for unrestricted cooling airflow to the unit. Refrigeration piping is run in the shortest manner possible to the cold room evaporator. This method is limited in permissible distance in proportion to the design temperature deviation tolerance that the project requires. A specialized engineering design will examine the proper line sizing and provisions for refrigerant oil return to insure a well functioning system. Consult your architect for roof loading factors.

2

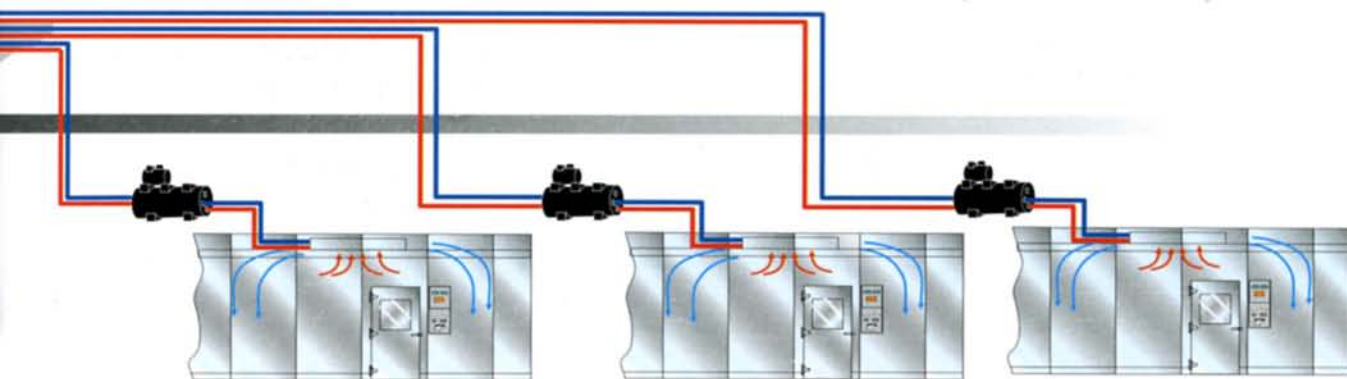
COLD ROOM INSTALLATION OPTIONS



5
Some enclosures will house toxic or hazardous substances. In addition to specialized monitoring systems and alarms, gas evacuation options can rapidly clear the enclosed space from dangerous fumes and gases. Most systems are integrated into building specialized exhaust systems. Insulated Structures can provide independent stand-alone systems on a customized basis.

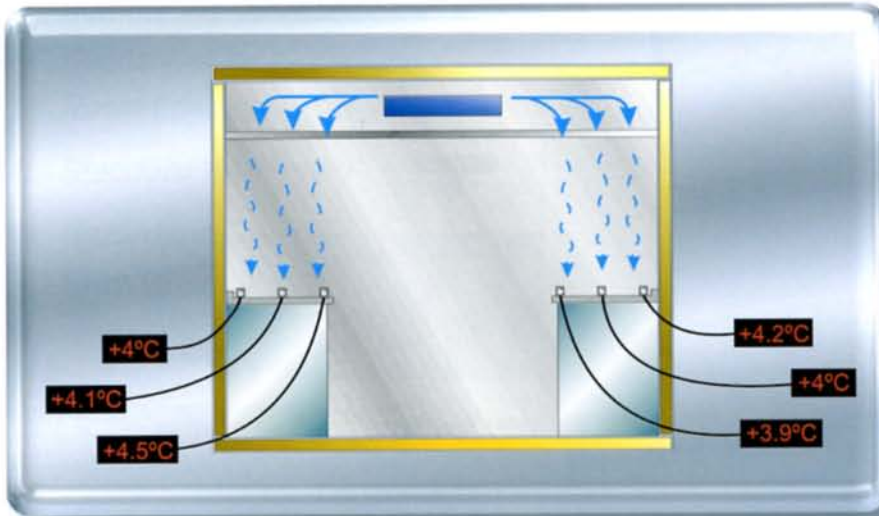


4
Periodic low-level room ventilation can be a self-contained system utilizing available fresh air immediately outside the cold room. A control panel mounted timed activation switch turns on low (typically 50 cfm) fans for moderate exhausting. This system can be varied to conform to various air-change design intentions; we recommend early consultation with our factory to properly coordinate cfm ratings with cold room temperature design. Humidity stability factors are also affected by ventilation. Proper overall room performance is critically related to ventilation issues. The factory must be advised of all conditions to advance design components to work in harmony with ventilation recommendations.

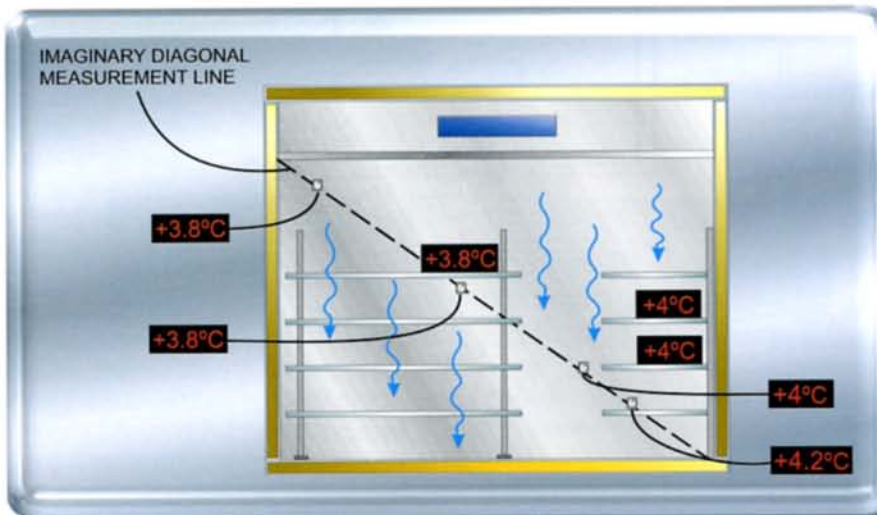


3
Remote air cooled, multi-circuited systems. Where water-cooling systems are unavailable and interior space discourages interior air cooling, remote air cooled, multi-circuited systems are recommended. Numerous cold rooms can be serviced by one or more roof-mounted air-cooled condensers. These will be sized and engineered to cool condensing units that are individually dedicated to their respective cold rooms. Contact factory for more details.

TEMPERATURE CONTROL

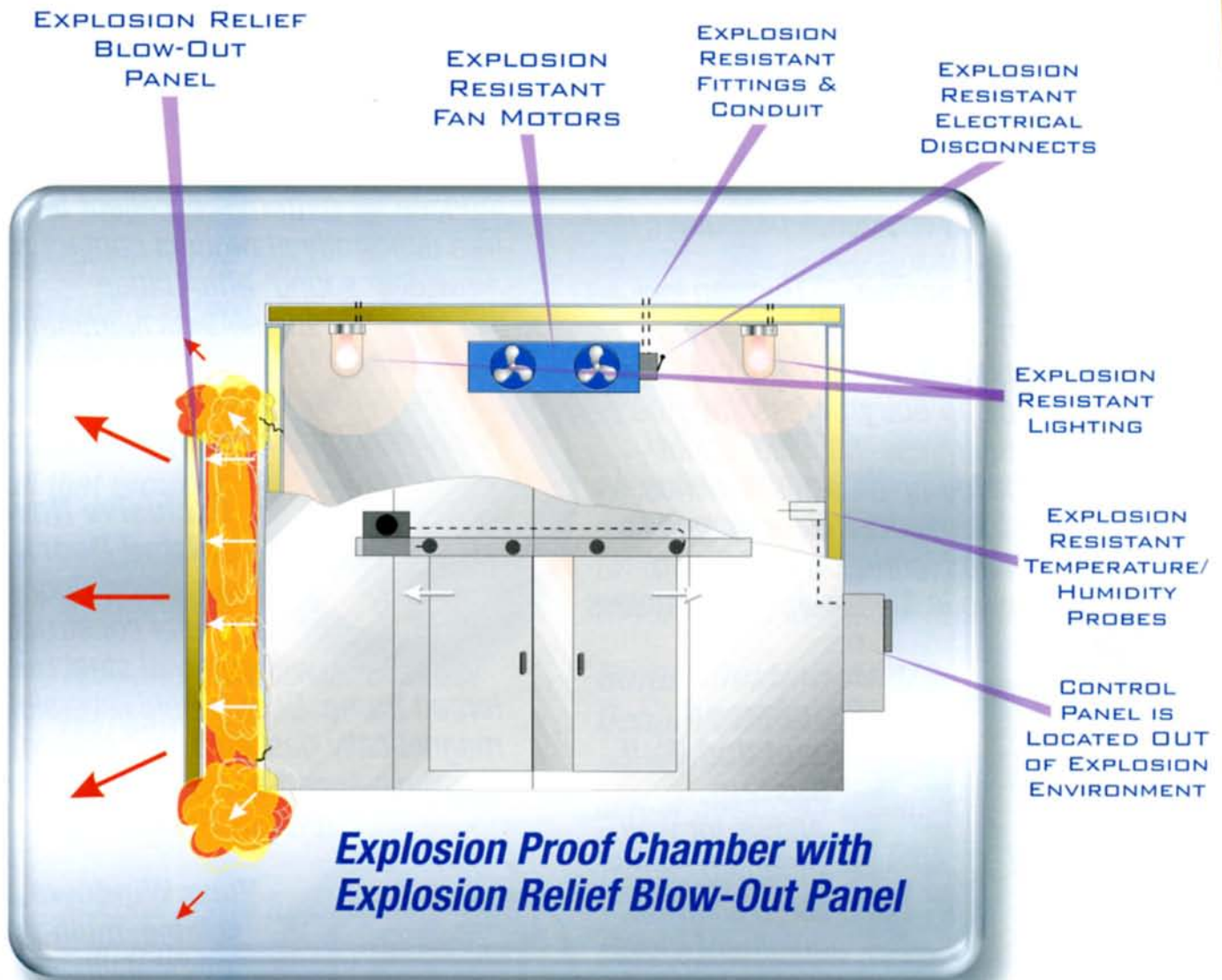


Constant temperature across the working surface, (usually the work table height), is measured using a multi-point recorder. Different specifications will require different approaches to airflow pattern design. $\pm 0.5^{\circ}\text{C}$ is obtainable, while less stringent specifications will result in more economical project costs.



Gradient temperature differences refers to the deviation in temperature at various points in the room, usually meaning vertically as well as horizontally. $\pm 1^{\circ}\text{C}$ is a generally accepted deviation value for gradient considerations. Shelving storage is often a factor when gradient specifications are called for. The layout and design of shelving, as well as the users storage density on the shelf may predominate the performance anticipated. If precise gradient is a major design demand, it is recommended that the factory is consulted at an early point in the room dimensioning, as height and equipment factors may require size changes to the original scope.

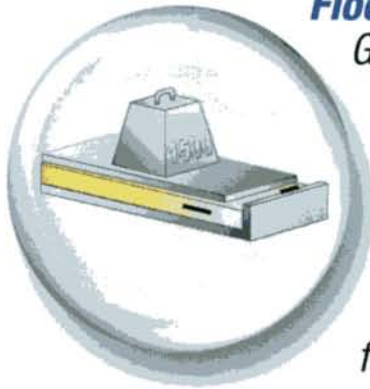
EXPLOSION PROOF ROOMS



Often times product characteristics dictate the use of explosion resistant components. Various grades of protection are available (specify Class, Grade and Division). The client is advised to carefully examine the true extent of the classification required. For example, if the interior of the room is to be classified explosion resistant, the immediate exterior may not require that exact same designation. This will allow for exterior components, i.e. wall mounted control panels and HVAC units, to be standard grade. This factor can result in a substantial cost containment over the premium required for the explosion proof designation.

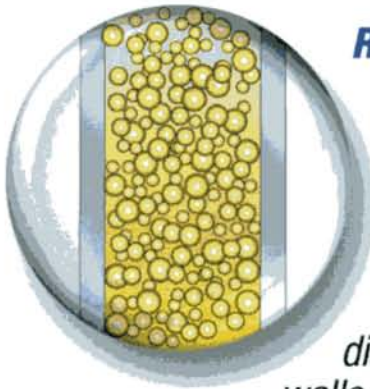
INSULATED-STRUCTURES KEY

Exclusive 12 Gauge Foamed In Place Flooring...



Our 12 Gauge Foamed in place flooring is designed and made for high load capacity, High density foam with the 12 gauge surface holds 1500 pounds per square foot.

Specialty Flooring... This can include a custom 2" thick floor used for reduced pitch at ramps, and complies with handicap entry/egress statutes. Overlay seamless nonskid sheet flooring covered up all sides 4 inches. Also can include NSF Flooring and Diamond Plate Flooring. Metal Finish Flooring also in Aluminum and Stainless Steel.



Reinforced Insulated Wall System...

Allows for wall mounted cantilevered shelving, equipment racks, distillation racks. All walls have continuous 2" steel internal straps interlocked through the cam locking systems. Insulated-Structures rooms are consequently extremely tight –seams are double gasketed–excellent for high/low humidity requirements. Odd size and shape rooms available for difficult jobsites: cor-

ner/beam cutouts, multi-height ceilings, customized sizes, as may be required.

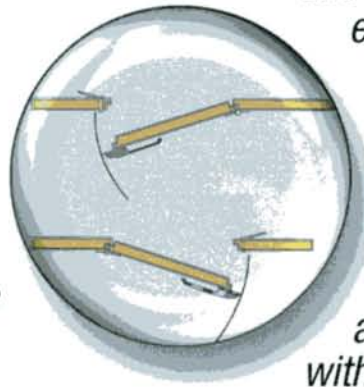
Extreme Deep Thermal 6" Foamed-In-Place Panel...

Used for Indoor/Outdoor Ultra Sub Zero Chambers down to -80 Degrees Celsius.

Ultra Uniformity Air Distribution Ceiling...

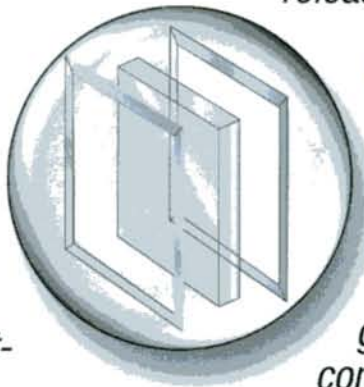
Straight line laminar flow induced air pattern – excellent temperature uniformity at product contact zones. Provides sound attenuation

and softens illumination, eliminating glare; permitting reduced energy consumption.



Exclusive Reversalated Door...

Reversalated Door has all metal construction with internal steel reinforced frame. Door is field reversible, magnetically gasketed, self closing, infitting flush appearance, with interior release system.



View Windows...

Insulated, multi-pane, thermal view windows available with anti-sweat heaters, and heat reflective glass coating. Can be configured into a glass door, with access to Product on shelving. Any size window can be placed in door or wall.

FEATURES

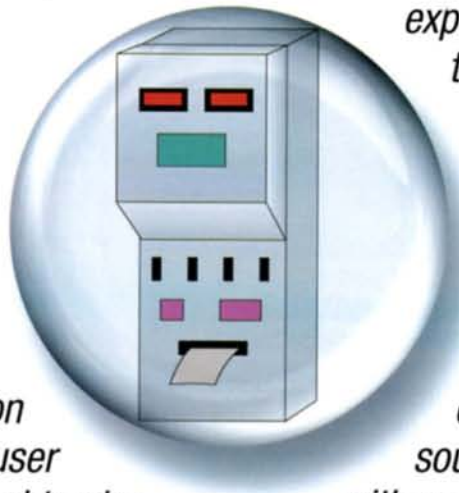
Interior Shelving... Free Standing, Cantilevered and Custom Applications—Non Slip Coating. Specialty Gravity Feed Shelving. Security Shelving also available.

Scientific Cabinets, Lab Benches And Integral Sinks... Custom Applications made in Stainless Steel.

Insul-Line Control Panel (Slim-Line Design)...

Can be mounted remotely on an adjacent wall, contains user friendly controls in a thin unobtrusive panel that provides:

- Digital Temperature and/or Humidity Readouts
- Full range temperature and/or humidity controllers**
- Refrigeration Mechanical HVAC Monitors
- Integral alarm for early warning with remote capability and active indicators, Chart Recorders (Circular and Strip Chart) 7-Day and 24-Hour
- Vent Circuitry
- Chemical Sensors
- Explosion Resistant Panels



Refrigeration And Heating Systems... Designed for your Specific Requirements—factoring refrigeration line runs, lighting, potential ventilation, process loads and expected occupancy; determines the BTU requirements and Horse Power Recommendations. Noncorrosive evaporator coil surfaces. Refrigeration component location indoor/outdoor, top mount or remote located, air cooled/water cooled. Dual source emergency refrigeration with on demand controls insure constant temperature. We also provide Explosion Proof Evaporators and Condensing Units, Two Stage Systems, Split Type Systems and complete remote systems.

Humidification And/Or Dehumidification... Depending on the set points desired, either humidifiers and/or desiccant dehumidifiers are utilized to maintain the percentage of relative humidity specified.

Data Acquisition Systems... Custom programs to record and collect data from multiple sources; example: product testing chambers can read out hundreds of individual probe information that can then be collated into the acquisition program to give a complete picture to the user of his test product's performance at various temperatures and humidity set points.

LARGE STABILITY STORAGE BUILDINGS AND

The requirements for accurately controlled temperature structures that can accommodate palletized storage typically demands outdoor construction; the ability to increase storage capacity by going vertically greatly reduces overall costs per cubic foot.

Insulated Structures can integrate with your project designers to provide a team approach to the elements of a properly engineered structure.

SOME OF THE KEY PARAMETERS:

✦ Initial Pallet Layout

- *The first step is understanding the relationship between product density storage versus accessibility, turnover, and airflow/temperature functions. Our team will provide some layout guidance based on past proven projects.*

✦ Structural Considerations

- *Once the pallet layout is determined, we will outline the internal structural needs to support the structure.*

- *Indoor stability rooms can be as large as needed, without necessarily any interior support visible within the structure.*

- *Outdoor structures need internal support that marries with the pallet layout. Generally, perimeter steel with cross members designed to carry all loading issues, while allowing for proper air flow and product access.*

✦ Insulation and R-Value

- *Our outdoor buildings come with 4", 5", and 6" available walls and ceilings. This insulated envelope is secured to the structural elements in a*



INDOOR WAREHOUSES:

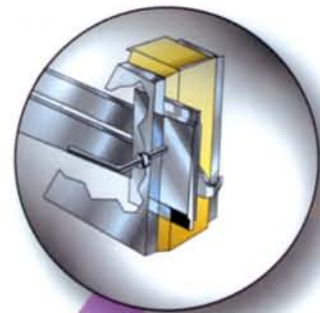
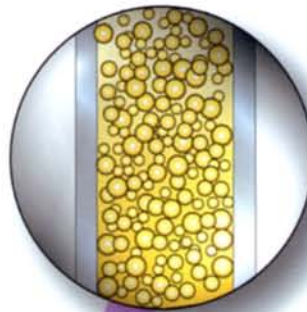
code-approved manner, to provide for an economical self-contained stability chamber.

✦ Temperature Control

- Specifications calling for temperature uniformity and monitoring are satisfied with multiple systems, which allow both for diversification to insure even distribution, and the opportunity for redundancy backup systems.

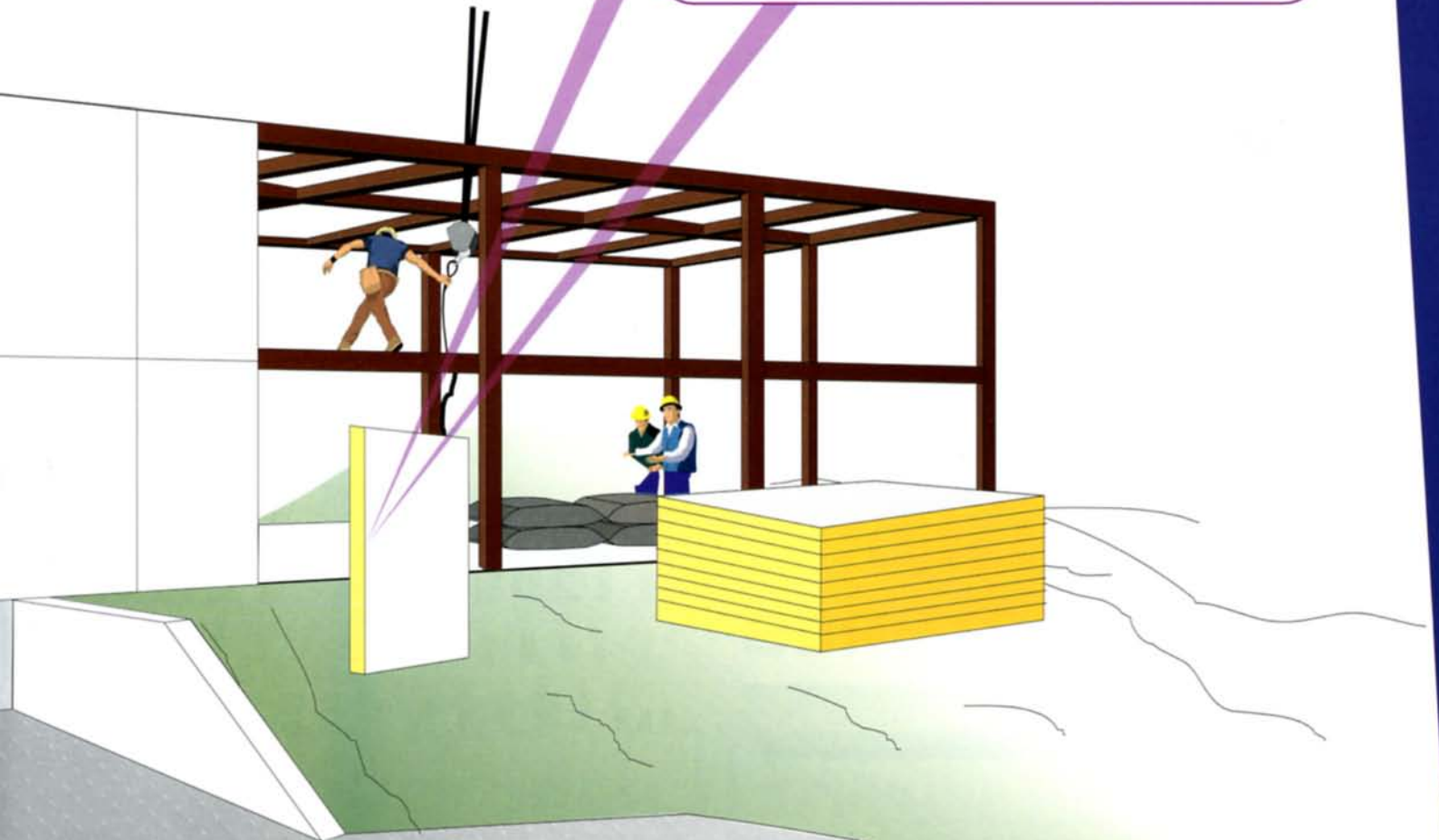
✦ Turn-Key Installation

- Insulated Structures can provide complete construction and turnkey project management. All factors of site preparation, foundation, structural erection, temperature control component installation, and training are available.



Reinforced Insulated Wall Systems

Allows for wall mounted cantilevered shelving or equipment racks. All walls have continuous 2 inch steel internal straps interlocked through the cam locking systems. Insulated-Structures™ Rooms are consequently extremely tight; seams are double-gasketed, excellent for high/low humidity requirements. Odd size and shape rooms are available for difficult jobsites. Corner/Beam Cutouts and Multi-Height Ceilings are available.



15-Year Panel Warranty*

- Revamping of Existing Rooms
- User Remote Capability PC Software
- Racking Systems for Warehouses
- Heppa Filtration Systems Available
- Historical Artifact Storage

**15 YEAR
WARRANTY**

COMPLETED PROJECTS

Columbia University

Merck & Company

Cornell University

Imclone Systems

North Shore Laboratories

St. Lukes/Roosevelt Hospital

NYU Hospital

Pfizer Corporation

Rutgers University

Wyeth Ayerst Labs

BioMatrix

Rockefeller University

Schering Plough

Lipton Co.

Minolta Advanced Technologies

Becton Dickinson

Pall Rai

University of Rochester

Bristol Myers Squibb

Museum of American Indian

Hoffman La Roche

Fisher Scientific/Acros Organics

University of Connecticut

Hoescht Celanese

Bayer - Agfa Division

Fuji Photo Film

B.A.S.F

N.Y.C. Dept. of Health

Hersheys

Aetna US Healthcare

General Foods

Stony Brook University

Cold Spring Harbor Labs

Givaudan-Roure

Norfolk Public Health

Purdue Frederick



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