Bahnson
An EMCOR Company

WRST ICH Stability Chambers

Introduction

Bahnson Environmental Specialties (BES) has been an important supplier for over twenty years in the design and manufacture of walk-in Stability Chambers that meet or exceed the current ICH stability standards. The largest multiple chamber installations in the United States have been designed and built by BES. These installations have incorporated smaller walk-in equipment for accelerated and extended range testing with the larger chambers designated for long term stability testing. Chambers have often exceeded 3,500 sq.ft. for long term studies. Stability chambers are designed for efficient air flow that guarantees temperature and humidity uniformity under extreme loading conditions and our guarantee is never limited by size.

Applications

- Long term stability studies
- Accelerated stability studies
- Freeze / thaw and thermal cycling

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WRST - Standard Features

- Modular metal skinned panels with urethane insulated tongue and groove construction for chamber enclosure.
- "Cam-locking" construction with vinyl gasketed seams.
- Low height aluminum ceiling plenum housing.
- Totally accessible hinged drain pan for maintenance and cleaning of all interior plenum components.
- PSC fan motors for energy efficiency. All fan motors rated for operating temperatures of chamber. Motors are remoted from chamber interior where application exceeds rating.
- Automatic defrosting with refrigerant hot gas and/or electric heat for quick and efficient operation.
- Semi hermetic continually operating compressors for extended equipment life and maximum chamber temperature control and uniformity.
- Uniform horizontal and vertical air distribution through a lay-in ceiling air distribution system with anodized aluminum support.
- Fully accessible control panel to efficiently and securely house all controls, alarms, and recording devices.
- Microprocessor based control of chamber parameters.
- Vapor proof fluorescent light fixtures.
- Factory leak testing of all refrigeration assemblies prior to shipment.
- Bench testing of complete control panel and electrical devices performed prior to shipment.
- Applicable ISO listing 9001:2000 applies.

WRST Options – Structure / Electrical

- Stainless wall, ceiling and floor finishes.
- Electrical wiring to NEC standards for CLASS I DIV 1 or 2 environments.
- Maximum product security through dead-bolts or locking bars. All security locking mechanisms are furnished with internal emergency relief.
- Freestanding open wire shelving.
- Movable top track or floor rail shelving.
- Thermopane view window in door or wall panels.
- Access ports and pass throughs.
- Surface mounted vapor proof duplex outlets for convenience.
- Vinyl floor mat runners in open areas or seamless floor covering over complete area.
- Exterior/interior door ramps.
- Emergency lighting systems.
- PLC upgrade available replacing all micro-processor based controls and alarms.
- RS 232 / 485 or 4-20 mA comms available.

WRST Options - Mechanical

- Perforated lexan ceiling designed to deliver low velocity air uniformly through-out the entire chamber. This approaches laminar flow. Lay-in tiles are prismatic for light diffusion.
- Complete stainless steel finish for ceiling plenum housing including drain pan.
- Exhaust fans with stainless steel filtered air intake or dampered connection ports for host building supply and return air to reduce stagnation in 40°C/75% RH rooms.
- Base level dehumidification with a dual coil split system.
- Extended range dehumidification by BES developed and field proven proportional air volume regenerative desiccant drier. This design allows close tolerance control and extended life of drier components.
- Low range humidity supplementation with mechanical atomizer or ultrasonic generator.
- Extended range humidification by independent passivated stainless steel steam generator designed for pure water supply.
- Point of use water purification system for steam generator supply water.
- Copper or phenolic coated evaporator fin construction for protection in corrosive environments.
- Complete 100% redundant backup refrigeration systems with automatic switch over.
- Vertical wall plenum configuration for increased chamber loads requiring greater evaporator coil surface area and air volume typical of large 25°C/60% RH areas.
- Available designs for temperature uniformity throughout entire chamber to ± 0.3°C.
- Available designs for humidity uniformity throughout entire chamber to ± 1% RH.
- Conditioning packages designed to use host building chilled water systems for chamber cooling. Complete chiller packages with redundancy can be provided in lieu of building chilled water.
- Non-refrigerated cooling using building ventilation available for certain applications.
- Remote air handlers to remove mechanical components from chamber interior and increase air volume.

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4412 Tryon Road, Raleigh, NC 27606
(919) 829-9300 • Sales Fax: (919) 833-9476
1-800-688-5859
www.eschambers.com · E-Mail:es@bahnson.com