DRYAIR Full Range of Products

From general purpose dehumidifiers to ceiling-mounted space-saving dehumidifiers, to ”ultra-low dew point” requirements that produce super low humidity dry air, DRYAIR dehumidifiers cover a full-range of applications & specifications, consisting of nine world-class dehumidification series, as well as a solvent-recovery series. This range of units can meet and exceed requirements /air parameters of many different industries and residential applications, handling air flows ranging from 200-30,000 m³/hr. DRYAIR can customize larger, non-standard dehumidification units according to customer specific requirements, specifications and expectations.
Compared to direct combustion or catalytic combustion technology that results in carbon dioxide & water organic waste gases being released into the atmosphere, the NMP Recovery Series developed by DRYAIR, utilizes cooling and condensing technology, realizing continuous NMP solvent recovery and air purification. NMP units deliver efficient and reliable operation, with a stylish, compact design. NMP Recovery Units designed considering multiple customer requirements from typical circulating cooling water & cooling water recycling combinations. NMP Recovery units can use ordinary circulating cooling water evaporation & condensation with direct NMP recovery technology. This technology application improves recovery efficiency; recycling obtains significant environment and economic benefits.
DRYAIR ZCS-SERIES Low Humidity Glove Box Dehumidifiers

ZCS-Series dehumidifiers are designed for Dry Box/Glove Box applications with ultra-low dew point (−60°C −80°C) internal requirements.

ZCS-Desiccant Dehumidifiers include a Molecular-Sieve Rotor, a key component which is ideal when applications call for a very low dew point environment. This high-quality rotor performs well when process air is dry and/or hot; or when the environment is alkaline. The rotor is divided into three sections comprising the 1st Process Sector, the 2nd Process Sector and the Reactivation Sector, making ultra-low dew point process airflow possible. The unit utilizes the most advanced dehumidification technology, and is well suited for Lithium battery Glove Boxes requiring ultra-low dew point internal environments, conditions, & requirements.
DRYAIR ZCB-SERIES Desiccant Component Units

Widely used in glass, pharmaceutical, chemical, food, rubber, and fertilizer manufacturing; and process/material affected by moisture

DRYAIR ZCB-Series Combined Desiccant Dehumidifiers feature Integrated Custom Air Handler (ICA), incorporating advanced features, including innovative double-wall construction that incorporates a superior no-through metal design, in either 2.5 or 4 inch wall thickness. Surface options of Galvalume, textured aluminum, stainless steel permit an effective choice for all manufacturing environments.

This ICA design is especially suitable for food & pharmaceutical manufacturing applications that operate under strict FDA and cGMP sanitation requirements.
DRYAIR ZCH-SERIES Ultra-Low Humidity Dehumidifiers

Designed for Ultra-Low Dew Point (−60 −80C) requirements; based on Lithium-ion, thermo-electrical battery & elemental Lithium requirement

Lithium Battery manufacturing processes require ultra-dry production conditions. Low-Humidity dehumidification equipment is indispensably in the manufacturing processes of these batteries & materials. ZCH-Series Low-Humidity Rotor Dehumidifiers are engineered using Lithium manufacturing requirements & technical experience. ZCH-Series Low-Humidity dehumidification technology utilizes high-quality compressors & condensers, direct-vaporize coolers, dual SSCR or Molecule Sieve Rotors, and world-class microcomputer control systems.
Manufacturers of moisture-sensitive and hygroscopic products realize substantial productivity & quality increases, along with greatly reduced energy consumption by utilizing an efficient Dry Room. Lithium battery, pharmaceutical, food & glass manufacturers, as well as many other specialized manufacturing applications have been successfully using DRYAIR Dry Rooms for many years.

**DRYAIR Dry Room Advantages:**

- Vapor-tight construction (panels, seams & air locks) reduces moisture sources to personnel load and makeup air load; improves system stability and efficiency.
- *DRYAIR* turnkey responsibility assures single-source guaranteeing Dry Room meeting customer specifications; reduced management cost for client.
- Wall Panel System facilitates Dry Room expansion or relocation; improves efficient use of the panel system and avoids overlapping investment.
- All components are sourced from World-Class Suppliers, improving system stability & prolonging service life; assuring the end user more investment return.
- *DRYAIR* global experience in Turnkey Dry Room fabrication and installation.
- *DRYAIR* Heat Recovery technology provides lower energy costs.
- Professional design, strict material selection, and DRYAIR disciplined fabrication process ensures, safe, efficient operation for many years.
The passive effects of moisture on products has always been problematic. Dehumidification is a viable resolution & is achieved by several methods:

- **Cooling the air below its dew point & removing moisture by condensation;** effective under conditions where the dew point is 8-10°C. The cooling method is effective for small applications; where the humidity is moderately controlled.
- **Absorbing the moisture by a desiccant material;** effective for larger applications, or where the humidity level must be controlled to a very low level. Ceramic fibers of impregnated porous hygroscopic agents are processed into honeycomb-like runners. The dehumidification structure is simple and can reach −60°C through special combination of desiccant materials.

**DRYAIR** utilizes cooling method technology with cellular-structured desiccant wheels; As shown below, the desiccant wheel rotates 8-18 times/hour, repeatedly absorbing moisture through a regeneration action, to provide dry air. The desiccant wheel is divided into a moisture area and regeneration area; after the moisture in the air is removed in the moisture area, the blower sends the dry air into the room. The wheel having absorbed water rotates to the regeneration area, and then regenerated air (hot air) is sent over the wheel from the reverse direction, expelling the water, allowing the wheel continuous, efficient operation.

Regenerated air is heated by steam or electric heaters. Due to the special properties of Silicone Gel/Molecular-Sieve Desiccant Wheels, **DRYAIR** dehumidifiers can achieve continuous dehumidification of large amounts of air volume. Through matching and combination, the moisture content of treated air can be less than 1g/kg of dry air (equal to dew point temperature −60°C).