



ARID-Dry®
Corrosion Protection for Long Term
Layup of Power Plant
Mobile Desiccant Dehumidifiers
Temperature and Humidity Control Equipment

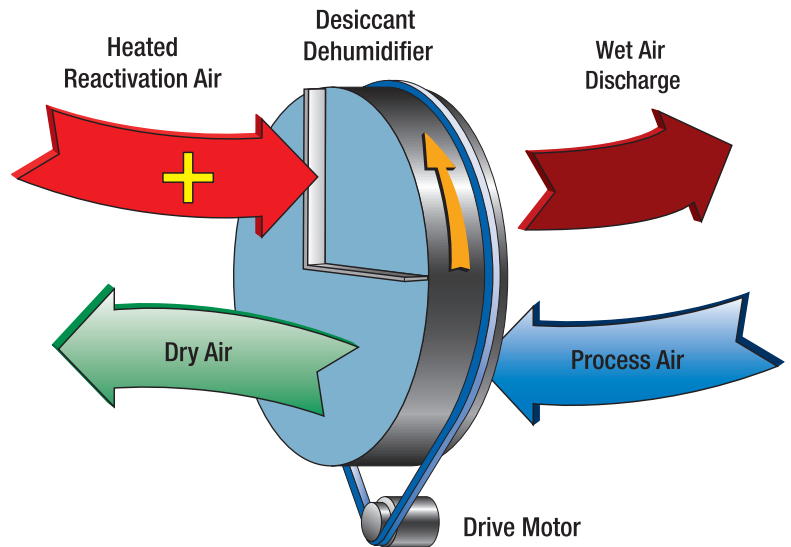
INTRODUCING CDI

Climate by Design International (CDI) is a flexible engineering and manufacturing company building large-capacity desiccant dehumidification systems for a wide variety of industrial and commercial applications.

The ARID-Dry® mobile product is comprised of large capacity desiccant dehumidifiers to remove ambient water vapor from air. Large-capacity desiccant dehumidification units are used in a variety of industries, including water damage and remediation, document drying, industrial surface preparation for coating, mold and fungus prevention, long-term lay-up of industrial equipment, and industrial condensation prevention. We have the capability to incorporate many additions to provide complete solutions for the temporary humidity control market.

Special attention is paid to construction details to provide a resilient unit capable of meeting the demands of the rental and temporary humidity control market. The units incorporate state-of-the-art features to maintain peak efficiency. Our wide variety of sizes can be applied from the smallest residential project to the largest commercial industrial project.

Our goal is to maintain the highest ethical standards and professionalism in order to best satisfy our customers.



Desiccant Dehumidification

A simple solution to an old problem. Solid desiccant rotor absorbs moisture from process air. Heat is used to “reactivate” the desiccant.

Why Use ARID-Dry® Desiccant Technology?

- **Very dry air can be achieved.**
- **Better thermodynamic efficiency:** Achieved because no change of phase (condensation) is necessary.
- **Simple construction:** Basic dehumidifier includes only two fans, a heater and the desiccant rotor assembly.
- **Simple maintenance:** Simply replace filters regularly and performance is assured. A yearly inspection by our service technicians is recommended to head off unscheduled outages.
- **Better Construction:** Double-wall insulated casing suitable for indoor or outdoor mounting. The MS 2400/2000 and MS 5000/4000 have stainless steel single wall weatherproof construction.
- **Modern Controls:** CDI includes standard intelligent microprocessor controllers with “Fail-Capable” mode.

Better Humidity Control Through ARID-Dry® Design

- **More Sizes:** Units range from 2000 to 18,000 CFM.
- **More Flexibility:** Total system integration is available including heating, cooling, enthalpy recovery, and special filtration. Even custom configurations are available to meet unique project requirements.
- **More Support:** Application engineering assistance, start-up and owner training, and preventative maintenance programs offered by CDI.

Corrosion protection for power plant long term layup CDI, ARID-Dry Mobile Dehumidifiers

The use of dehumidified air systems to control corrosion in metals consists of removing atmospheric water vapor from the air to lower the ambient (Air) vapor pressure or % RH below the dew-point temperature of the surface. Maintaining an ambient vapor pressure lower than the corresponding surface vapor pressure will prevent moisture from collecting on the surface.

Industrial Condensation Prevention

Metal Surfaces can oxidize when ambient dew point levels exceed the surface temperature. Microscopic moisture particles will collect on surfaces as the metal cools the ambient boundary layer in close contact with the cool metal. As more water molecules collect, visible moisture appears. This moisture can create rapid oxidation or flash rust. Other materials present from the combustion processes in the gas side of boilers and assorted auxiliaries can also interact with the moisture to form acids which can further accelerate the degradation of surfaces. Temporary or permanent desiccant dehumidifiers can eliminate the condensation.

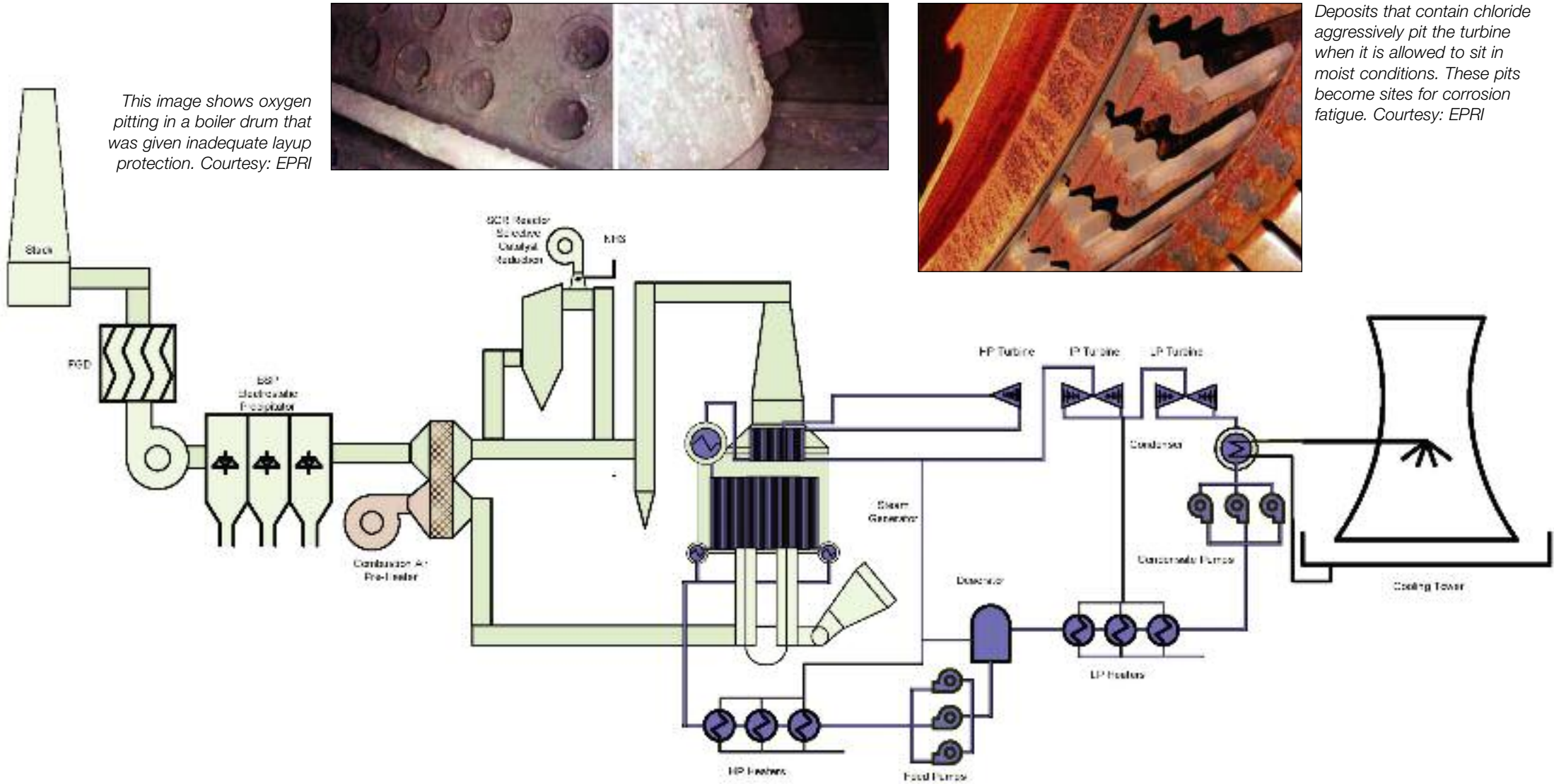
Utility Boiler Long-Term Storage

If a utility or industrial boiler or generator is idled for long periods of time, corrosion can result. Corrosion is caused when elevated ambient dewpoint air contacts the metal surfaces. Temporary or permanent desiccant dehumidifiers can reduce the ambient dewpoint, which prevents corrosion. Large boiler/generators and ancillary components can be protected for long periods by providing dry air blankets to protect equipment without the expense or dangers of a nitrogen blanket.

Climate by Design International (CDI), **ARID-Dry** mobile desiccant dehumidifiers provide temperature and humidity control for power plant long term layup and industrial condensation prevention.



Power plant turbine unit. Courtesy: TVA and EPRI.



Deposits that contain chloride aggressively pit the turbine when it is allowed to sit in moist conditions. These pits become sites for corrosion fatigue. Courtesy: EPRI



Wet side, MS-6000/5000 pulls moisture from ambient air.

CDI builds the largest- capacity mobile dehumidifier available. Systems utilize natural gas, propane, or electric reactivation.

ARID-Dry is more thermodynamically efficient because there's no change-of-phase necessary. It's simple design makes it highly reliable, while our superior construction makes the system dependable day-in and day-out in the most demanding environments. Our intelligent microprocessor even makes using ARID-Dry equipment easy to monitor!

ARID-Dry MOBILE PRODUCTS

CDI is the largest mobile dehumidifier systems manufacturer in North America. Our equipment is offered by the largest heavy equipment renters in the United States.

Choose from an extensive line of dehumidifiers for jobs of all sizes, with lots of options and world-class support to make sure you're on the right track.

To prevent corrosion on power plant equipment, you need the best.
You need ARID-Dry.



Line-up of skid mounted units



Caster-Mounted MS 2400/2000



MS 5000/4000



MS 6000/5000



MS 18000/15000