



WHITLOCK-MATERIAL HANDLING

WD SERIES DEHUMIDIFYING DRYERS



Precise process temperature control, high performance drying in a compact design, with easy component access

The AEC WD Series

desiccant dryers create super-dry, hot air.

This dehydrated air stream moves through the hygroscopic materials and efficiently strips moisture. The saturated air passes again through the desiccant releasing moisture to the absorbent desiccant. The closed-loop system dries and reheats the air stream. The dryers are available in 90, 100, 150 and 225 cfm (150, 170, 225 and 380 m³/hr) models.

WD Series dryers are available with numerous options, including a complete line of drying hoppers from 0.40 to 425 cu. ft. (11 to 12,035 liter)

WD SERIES DRYING SYSTEMS

- High drying performance on hygroscopic materials such as polycarbonates and nylons by using low dew point air heated to the optimal temperature.
- Easily adjustable drying temperature up to 400°F. The automatic microprocessor-based control also provides high process air temperature safety.
- Automatic immediate bed-shift via timer or dew point sensors shift on demand provide efficient drying performance.
- 400°F capability enables high temperature drying applications for remote installations. Standard high temperature dryer hose included for connection between dryer and drying hopper.
- Securely packed desiccant beds with screens prevent fluidization and abrasive degradation, enhance performance, and minimize maintenance.

- Long lasting, high temperature Incoloy calrod heaters prevent material contamination. Large diameter rods and 1600°F ratings maximize heater life.
- Digital LED readout on microprocessor-based control indicates air temperature and alarm lights for low compressed air/auto-shutdown, and high process air temperature. Available options include high dew point and restricted filter alarm indicator lights.
- Safety controls on both desiccant bed regeneration heaters shut off heaters in the event of a malfunction.
- Cabinet design protects operator from accidental contact with heater surfaces. Removable panels provide convenient maintenance.
- Rigorous electronic testing includes dew point, temperature profile, responsiveness and regeneration performance prior to shipment.

- High pressure blowers deliver full rated airflow in the drying system.
- Oversized cartridge filters protect desiccant bed contamination and minimize pressure drop.
- Process heater mercury contactors extend heater life.
- Domed desiccant beds improve air distribution and optimize desiccant performance.
- Fast shifting, positive seating air flow control valves prevent leaks which adversely affect dew point capacity and performance.



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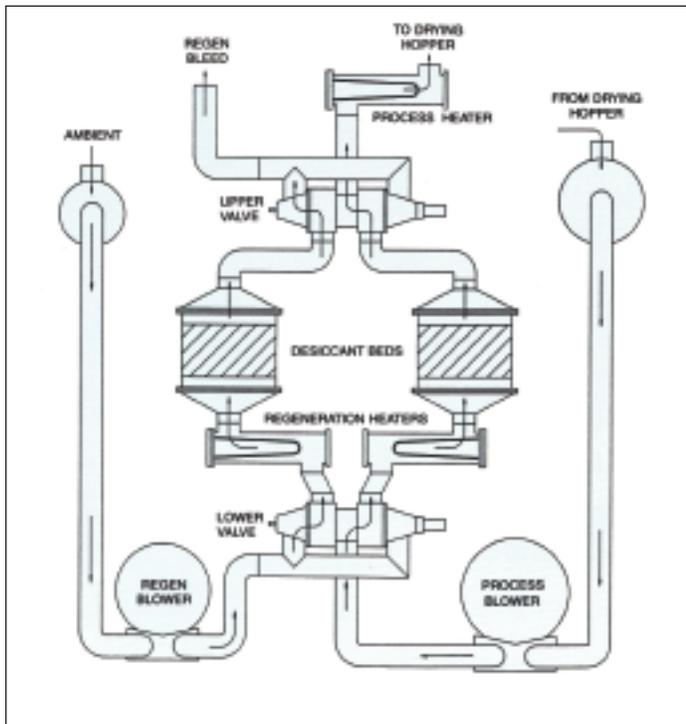




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Air Flow Diagram - Dual Blower
WD-90, WD-100, WD-150 and WD-225



DRYING CYCLE

The closed loop system maintains a constant rate of drying through two alternatively operating desiccant beds. These beds contain the moisture absorbent sieve material. Cool, wet air returns from the drying hopper and passes through a

cartridge filter before entering the blower. Molecular sieve desiccant in the bed absorbs moisture from the air and it then proceeds through the control valve into the process air heater before returning to the drying hopper.

REGENERATION CYCLE

While the on-stream desiccant bed absorbs moisture from process air, the regenerating desiccant bed releases moisture picked up during its previous on-stream cycle. On dual blower units (diagram left), one blower provides on-stream airflow and the other supplies regeneration air filtered from the atmosphere. Both isolated airflows switch between on-stream and regeneration beds through a lower control valve. The heated air passes through the regenerating desiccant bed and expels the trapped moisture. The air continues through the control valve to the bleed which directs it back into the atmosphere. When the regenerating desiccant is thoroughly dried, the regeneration air heater shuts off to cool down the bed.

SWITCHING BETWEEN CYCLES

When fully cooled, the regenerating bed switches to become the on-stream bed while the previous on-stream bed switches to become the regenerating bed.



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