

AIRLESS DRYER



The innovative Dupps Airless Dryer is a rotary drum dryer that features superheated water vapor at atmospheric pressure as the drying medium. It's also an indirect heated dryer—the products of combustion are isolated from the process loop of the dryer by a heat exchanger.

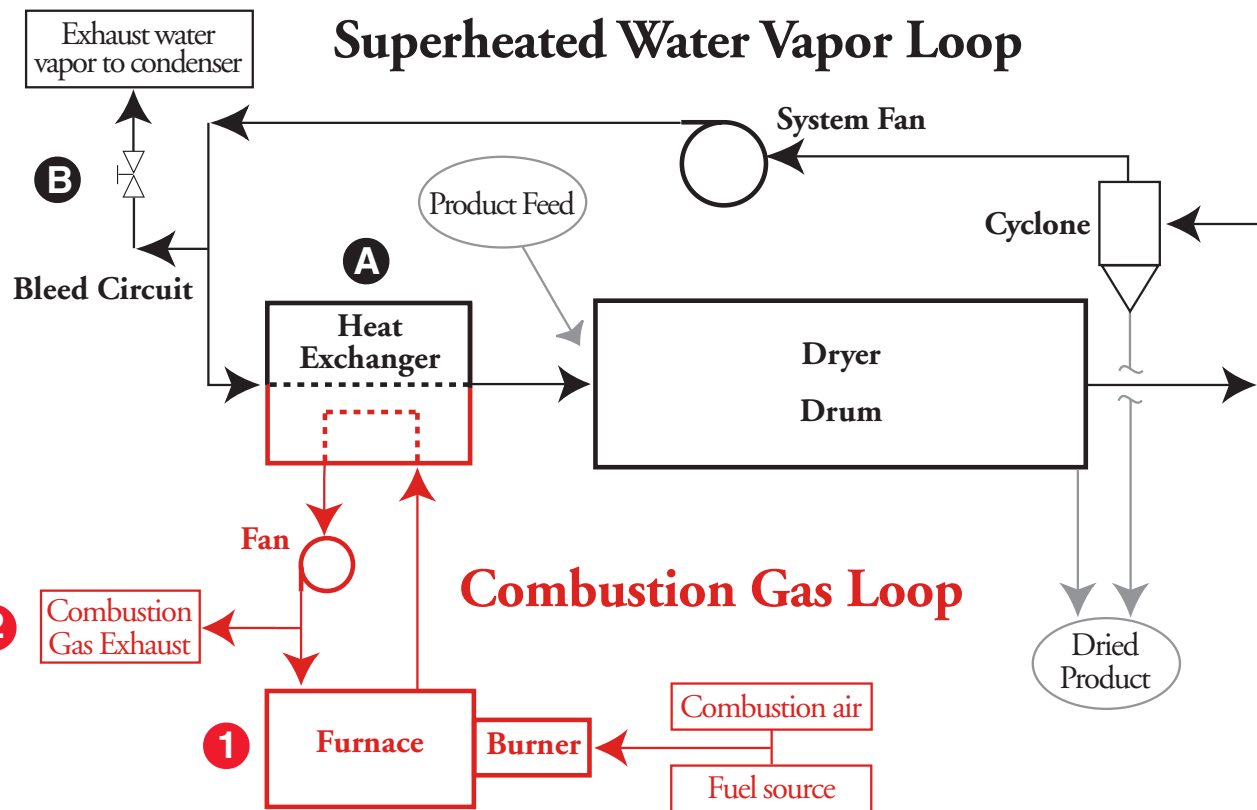
The Airless Dryer offers a number of important operational benefits over conventional hot air dryers:

- There is minimal risk of in-drum fires because of the oxygen-starved environment.
 - Minimal odor control equipment is needed.
 - There is no visible plume of dryer exhaust.
 - The dryer's exhaust is essentially water vapor, which can be condensed to recover thermal energy. This energy can be used elsewhere in the plant.
 - No pressure vessel is required because the dryer operates at atmospheric pressure.
- Exhaust volume is much less than comparable heated air dryers. So if an RTO is used, it will be considerably smaller, and less expensive.

The Airless Dryer is part of an extensive line of industrial drying equipment that includes the patented QuadPass™ rotary drum dryer and Dupps Ring Dryer. Dupps also provides complete system installation, including combustion system and controls, heat exchanger, drum, ductwork, cyclone and recirculation fans.



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In the Dupps Airless Dryer, the system fan creates a circulating loop of water vapor. Heat is picked up from the heat exchanger (A) to drive the evaporation of moisture from wet feed in the dryer drum. The water evaporated from the feed displaces air in the water vapor loop, thus creating the “airless” environment.

To maintain atmospheric pressure in the dryer, a bleed circuit (B) is needed to exhaust water vapor. This water vapor can be treated with a conventional condensing system for energy recovery. Small amounts of non-condensable vapor can be routed to a stand-alone incinerator before venting to atmosphere.

Flue gases from a conventional combustion furnace (1) supply heat to the exchanger. These flue gases are circulated several times through the heat exchanger for maximum efficiency before being exhausted into the atmosphere (2). To provide heat to the “non-process side” of the heat exchanger, Dupps offers many fuel options, including natural gas, fuel oil, wood, and coal, just to name a few.

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Visit www.dupps.com to learn more about complete drying solutions for a wide range of process industries.

Due to ongoing product improvements, data shown here is subject to change without notice. Contact The Dupps Company for latest specifications.

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