



Airless Dryer

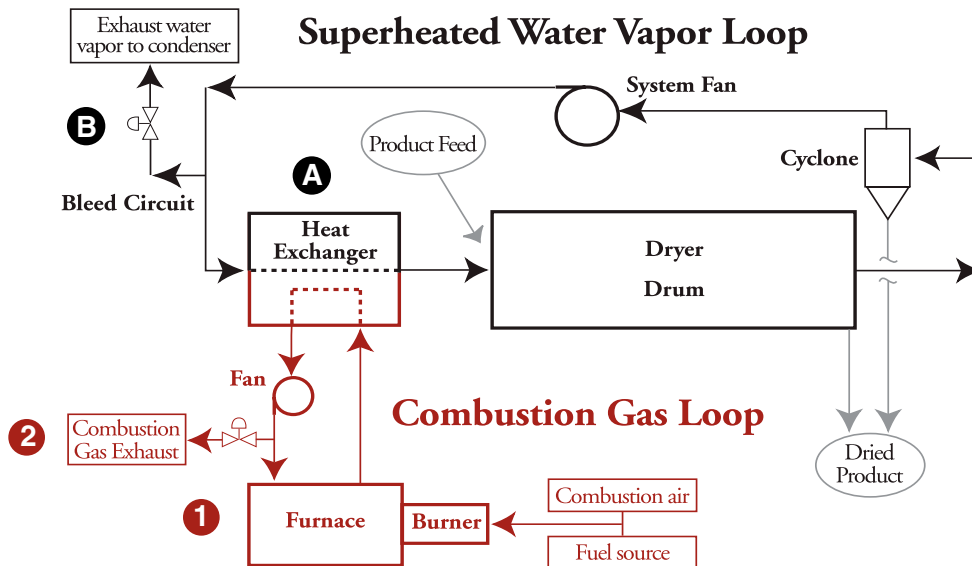
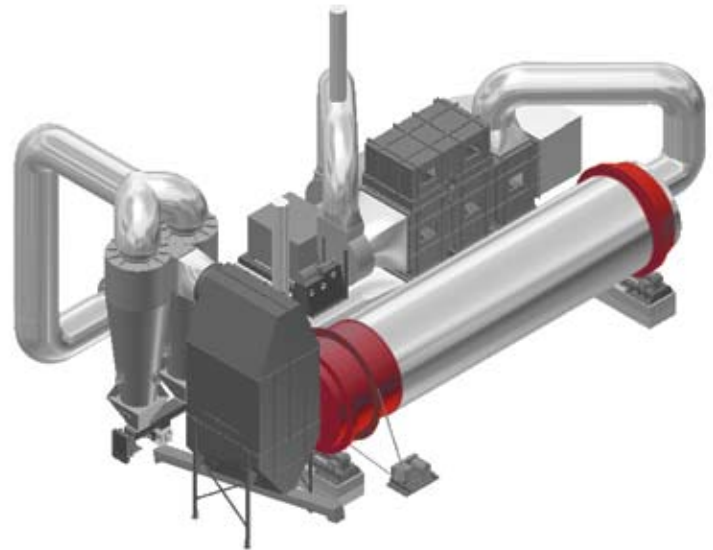
**Unique rotary drum dryer
uses superheated water
vapor at atmospheric pressure
as the drying medium.**



- The innovative Dupps Airless Dryer is an indirect heated dryer—the products of combustion are isolated from the drying loop by a heat exchanger.
- There is reduced risk of in-drum fires due to the oxygen-starved environment.
- Short product residence time in the dryer means improved product quality, particularly with heat sensitive materials.
- There is no visible plume of dryer exhaust. The dryer's exhaust is essentially water vapor, which can be recovered and used as a heat source elsewhere in the plant.
- Recirculated drying and combustion gases results in further significant energy savings.
- Because drying takes place in an oxygen-lean environment, the effects of oxidation is reduced in some products.
- A pressure vessel isn't required because the dryer operates at atmospheric pressure.
- Odor control capacity needs are greatly reduced.

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System fan creates a circulating loop of water vapor. Heat is transferred 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, 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 or used as a heat source for other processes.

Combustion gases from a conventional furnace (1) supply heat to the exchanger. The combustion gases are circulated several times through the heat exchanger for maximum efficiency before being exhausted into the atmosphere (2).

The Dupps Company



Germantown, Ohio U.S.A.
Phone: 937/855-6555
Fax: 937/855-6554
E-mail: info@dupps.com

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