

FLUIDIZED BED DRYERS AND COOLERS



WESMAN FOUNDRY EQUIPMENT

FBC AND FBD-SERIES

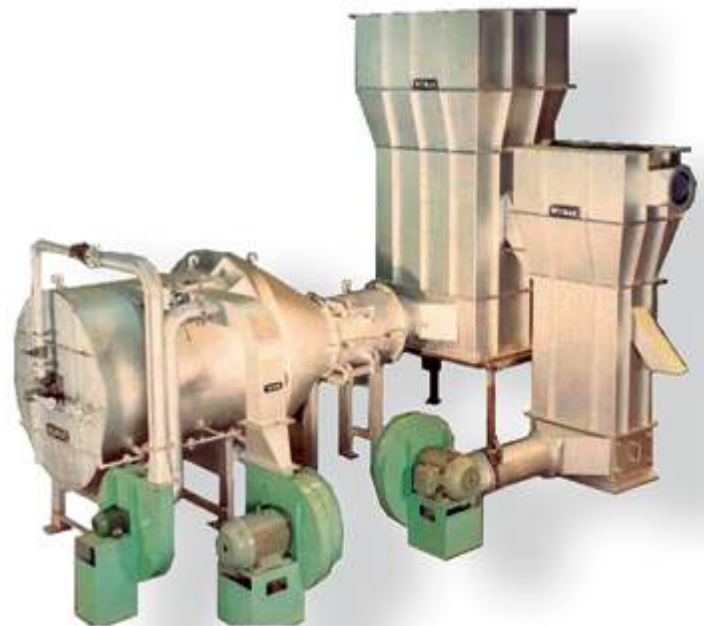
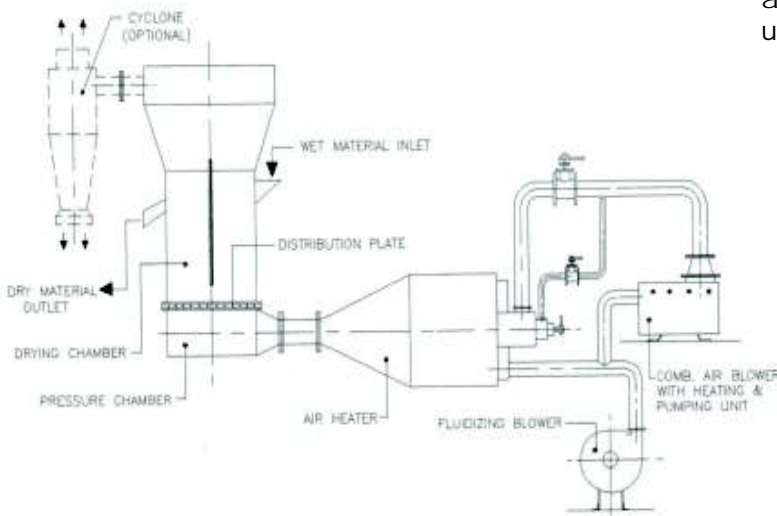
WESMAN FLUIDIZED BED DRYERS range from 500 kg to 50 tonnes per hour. The dryer consists of a vertical container holding the sand, a distribution plate, and a pressure chamber. Hot air comes from an oil or gas fired hot air generator or electric air heater designed to operate at high back pressure.

STAR FEATURES

- Energy efficient due to high heat transfer rate
- No moving parts in dryer
- Continuous or batch operation possible
- Noiseless dryer operation
- Clean environment
- Occupies less space
- Low initial and operating cost compared to conventional rotary dryer
- Can be integrated with automatic or semi-automatic sand plant

PRINCIPLE OF OPERATION

When high-velocity air or gas passes through a bed of sand, the sand becomes a gas-solid mixture with characteristics of a liquid. In this fluidized state close contact between hot gas and sand enhances heat transfer by conduction and convection, and ensures efficient mixing and uniform drying.



Special nozzles in the distribution plate allow hot gases to pass through but prevent sand from falling into the pressure chamber. An expansion chamber at the top reduces the gas velocity and causes solid particles entrained in the fluidizing gas to drop back onto the bed. The exhaust gas may be passed through an optional cyclone separator to extract fine particles which may be entrained.

Wesman fluidized bed sand dryers operate at temperatures from 160°C to 600°C and can be configured for batch or continuous operation. Higher temperatures provide a greater yield but necessitate use of an after-cooler. Wesman supplies a matching after-cooler where instead of hot air, ambient air is used to fluidize the column of hot sand from the dryer.

DRYER	CAPACITY	COOLER
FBD-5	0.5 TPH	FBC-5
FBD-15	1.5 TPH	FBC-15
FBD-30	3 TPH	FBC-30
FBD-50	5 TPH	FBC-50
FBD-100	10 TPH	FBC-100
FBD-150	15 TPH	FBC-150
FBD-200	20 TPH	FBC-200
FBD-250	25 TPH	FBC-250
FBD-500	50 TPH	FBC-500

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