RAYMOND® HYBRID TURBINE CLASSIFIER FOR RB BOWL MILLS

With a 130 years of experience, Raymond is a leader in the design and manufacture of industrial milling and classification equipment.

Upgrade for Critical Particle Size Control and Improved Processing

The increase in demand for finer solid fuel products led to the development of the hybrid turbine classifier that combines Raymond's proven static classifier technology with a turbine classifier.

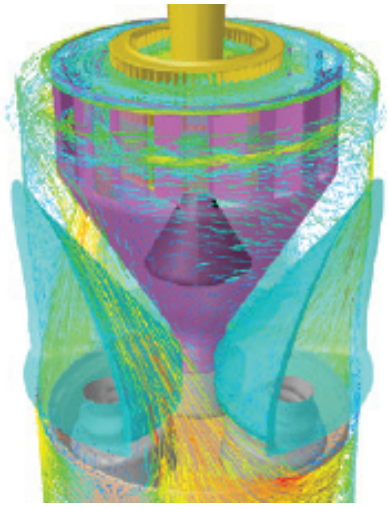
Overview

The Raymond bowl mill is the worldwide industry standard for simultaneously pulverizing, classifying and drying coal and petroleum coke used to fuel cement, lime and power plants, as well as other industrial process applications. Pulverized fuel fineness requirements may range from 70% to 95%, or more, passing 200 mesh (74 microns).

The Raymond hybrid turbine classifier's patented design possesses significant advantages that enhance the performance of the mill, making it possible to consistently produce pulverized fuel which is compatible with today's combustion technology.

ADVANTAGES

- Improves classification efficiency.
- Provides for more accurate particle size control, resulting in a steeper product size distribution.
- Upgrades the bowl mill to produce a pulverized fuel with a higher fineness which increases the mill capacity.
- Meets NFPA 85F requirements.



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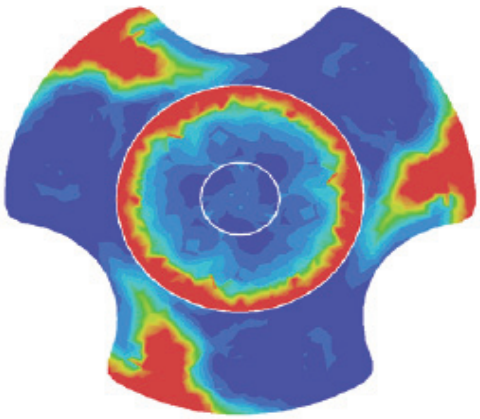
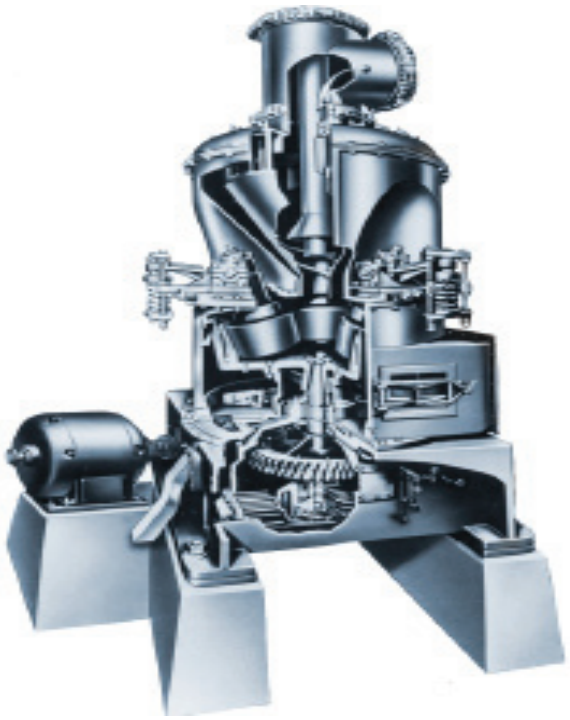
The flow pattern inside the bowl mill concentrates the pulverized fuel stream into three distinct currents illustrated in the Computational Fluid Dynamics (CFD) model. This segregation disrupts the efficiency of separation for either static or dynamic classifiers. The hybrid turbine classifier equalizes the distribution of the pulverized fuel as it is introduced to the turbine rotor, optimizing the classification process. The result is a more efficient separation, giving the bowl mill the ability to generate a finer product at improved levels of production.



Raymond RB Bowl Mill Power Requirements

Mill Model	Classifier Power - kW
453	5
493	5
533	8
573	8
613	11
633	11
673	15
733	18
753	18



The following operational advantages can be realized with the use of the hybrid turbine classifier.

- The mill is now capable of producing pulverized fuel having a lower top size, resulting in better controlled flame and combustion process with reduced emissions and unburned carbon.
- The steeper particle size distribution produced by the mill facilitates combustion of solid fuel possessing a coarser average particle size without sacrificing system performance or process capabilites. Mill capacity can be increased and overall plant efficiency improved.

The design can also be applied to the RS/RP/HP pulverizer models or extrapolated to other manufacturer‘s equipment.

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