

Raymond®

HP Bowl Mill for Coal & Petroleum Coke Applications

Raymond's High Efficiency Vertical Roller Mill



Raymond #863 HP Bowl Mill

Raymond® Bowl Mills, with over 5,000 units put in place worldwide, are the accepted standard for pulverizing coal or petroleum coke in many industries, such as power, steel, lime and cement.

The HP mill, the latest in a series of Raymond® Bowl Mills, continues to redefine the standards in coal grinding. These latest designs feature engineered attributes that lower initial cost, enhance operation, assure maximum availability and facilitate maintenance and repair. Simply and effectively.

Utilizing our latest dynamic and turbine classifiers, pulverized solid fuel can be generated possessing a steeper particle size distribution and reduced top size. This yields a more homogeneous product for better combustion efficiency.

Engineered for Your System

Equipped with the latest dynamic classifiers, up to date control technology and other options, a Raymond designed HP Bowl Mill system can ensure you with a flexible, easy to manage, dependable and efficient operation.

The HP Mill is readily adaptable to a wide variety of applications and firing circuit designs. From alternatives such as using "once-through" air handling with hot air from a cement cooler or "recirculation" utilizing drying air from a preheater discharge, Raymond engineers can assist you in designing a firing circuit appropriate for your application and fuel source, for coarse or fine grinds and from low to a high moisture coals, petroleum and shot cokes.

Making it Right

From the premium quality liners and hard surfaced wear parts to the adjustable grinding roll assemblies, Raymond® Bowl Mills are made to operate dependably and consistently. Easy access to the wear and common repair areas illustrate that they are also designed to minimize any down time. And with original Raymond parts readily available, you can be sure they'll keep running.

Making Sense

Reliable Raymond® Bowl Mills can reduce your operating costs while enhancing your overall process control and plant efficiency.



The simple, effective design translates to a pulverizer that is *simple* to erect, *simple* to operate and *easy* to maintain. Proven in power, lime, steel and cement plants around the world, these Raymond vertical roller mills simultaneously dry, pulverize and classify solid fuels to 95%+ passing 200 mesh (<5%R 75µ) and are available in sizes having nominal capacities up to 150 tons per hour.

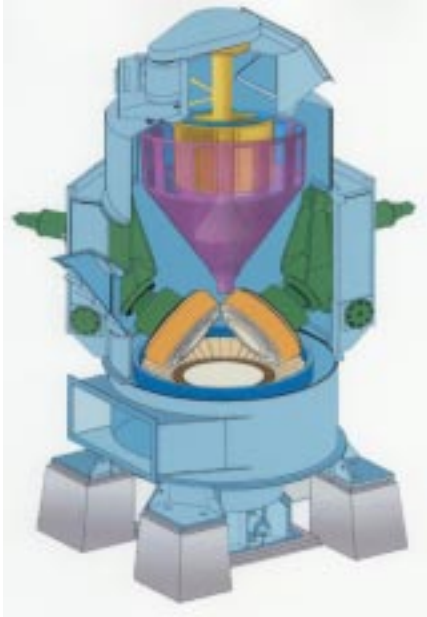
With the price of more traditional fuels at current levels, switching to solid fuels makes sense. Raymond makes even more sense.

Since 1887, it always has.



**Air Preheater Company
Raymond Operations**

The simple, effective design affords simple operation and easy maintenance, while possessing the flexibility to handle coals of varying moisture content, as well as petroleum coke of various grades.



Raymond® HP Bowl Mill with Hybrid Turbine Classifier

Three major factors affect the capacity of the Raymond® Bowl Mill: desired fineness, grindability characteristics of the material and initial moisture. As grindability (here measured on the Hardgrove scale) increases, so too, does the capacity of the mill. Conversely, the capacity of the mill decreases when the fineness or initial moisture increases. Power consumption is also a function of the grindability and fineness to which the material is being pulverized.

Because of the complexity of the interactions between these three factors, all Raymond® Bowl Mills are cataloged in terms of "base capacity", which is defined in terms of a coal of 55 Hardgrove and a fineness of 70% passing 200 mesh. All sizes are available with static or dynamic classifiers to accommodate a wide range of product fineness.

Contact ALSTOM Power, Air Preheater, Raymond Operations for details on your application.

Mill Features

- **Dynamic Turbine Classifier for high throughput and improved fineness control.**
- **Rotating vane wheel design provides even air distribution around the bowl and decreased pressure drop, reducing energy consumption**
- **Adjustable grinding roll assemblies protect against inconsistent loading.**
- **Hard surfaced overlaid grinding rolls provide improved performance and excellent wear.**
- **Premium quality liners for maximum wear characteristics.**
- **Independent planetary gear box for smoother operation and easy maintenance.**

HP Bowl Mill Capacities and Motor Sizes

Mill Size	Base Cap lb/hr	Base Cap kg/hr	Motor Input kW	Motor Rated hp	Motor Rated kW
663	48,700	22,000	245	300	250
743	68,600	3,1100	321	400	315
803	86,700	39,300	386	500	375
863	103,800	47,000	446	600	450
943	129,700	58,800	544	700	560
1003	151,400	68,600	632	800	630
1103	192,200	87,100	807	1000	800
1203	238,900	108,300	908	1250	900
1303	291,800	132,300	1098	1500	1000



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