

Zhengzhou Sinoder Indutech Machinery Co., Ltd

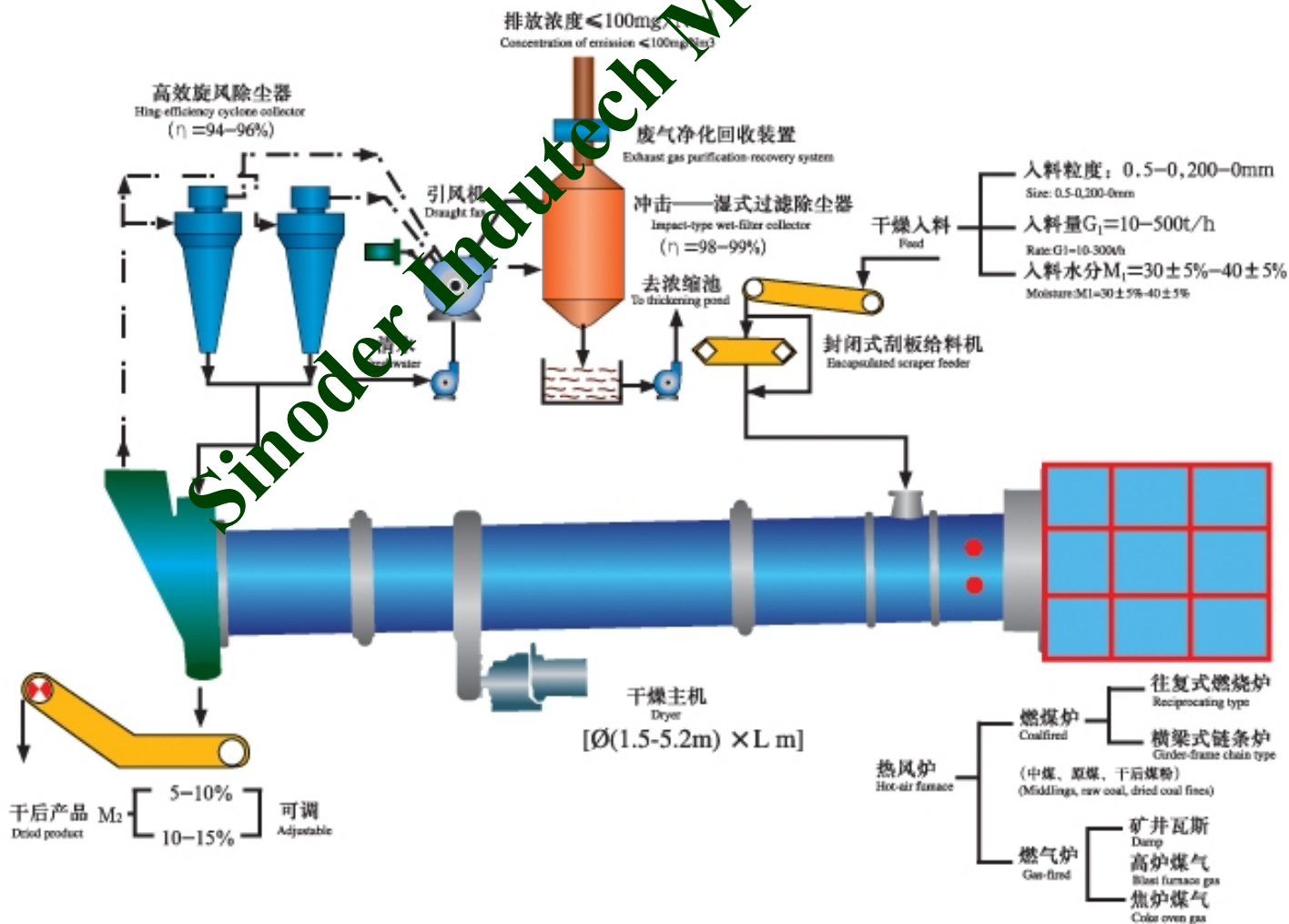
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Coal Rotary Drying Solution

Coal (Wet Basis) from Coal storage yard or coal mine is loaded into belt conveyor and conveyed to sealing feeder for a direct fed into the JNG energy saving drum dryer. After undergoing a process of medium heat exchange drying, the coal is loaded into discharging conveyor belt from the discharging box. Then the coal is conveyed to THE storage yard.

Hot medium (hot fuel gas) for coal drying is produced and prepared in coal-fired hot blast heater. The environment air, which is sucked into the flue pipe with air blower and hot fuel gas from the hot blast furnace, is sent to drum dryer after temperature adjustment where it heats the wet coal and absorbs the water vapor. The mixture of hot gas and water vapor go through discharging box and flue pipe and is sent to dust collect cyclone for powdered coal recovery. The preliminary purified gas is sent to bag filter for further purification. Then the waste gas goes through the exhaust funnel and is discharged to the atmosphere by the induced draft fan.

The powdered coal collected by First Stage dust collector is loaded on to discharging conveyor by discharging spiral and sealed coal discharger, then mix with the dried coal. The powder coal collected from the second stage bag filter is loading into discharging conveyor by discharging spiral.



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The muddy and sticky material drying system developed with independent intellectual property rights includes dryer and its associated hot-air furnace, encapsulated constant-rate feeder, special encapsulated discharge mechanism , high-efficiency primary cyclone dust collector , secondary impact-wet filter collector , exhaust gas purification and recovery unit and automatic control devices(See the Process Flow sheet).

Notes:

- 1.As shown ,the feed can be diverted directly into dryer to complete feeding ,drying and discharge operations in one unit.
- 2.In a water-deficient area or in an area without any coal cleaning plant , bag collectors can be used.
- 3.The dryer’s length (L) is in proportion to its diameter and can be selected according to specific requirement.
- 4.For treating thickener underflow or cake product of filter press that is dumped on ground with bulldozer ,a 4-axle slurry breaker needs to be provided at the tall end of a feed belt conveyor.

Rotary Drum Dryer Parameters

Specifications (m)	Capacity (t/h)	Main motor		Weight (t)
		Power (kw)	Model	
Φ1 × 10M	0.5-1	3.5	Y132M2-6	10.5
Φ1.2×10m	1-2	7.5	Y160M-6	13.5
Φ1.5×12m	2-5	11	Y160L-6	18.9
Φ1.5×15m	4-6	15	Y180L-6	21
Φ1.8×12m	5-8	18.5	Y200L1-6	22.83
Φ2.2×12m	6-9	18.5	Y200L1-6	37.6
Φ2.2×14m	7-12	18.5	Y200L1-6	40
Φ2.2×16m	9-14	30	Y225M-6	45
Φ2.4×14m	10-16	30	Y250M-6	51
Φ2.4×18m	12-18	37	Y250M-6	54
Φ2.4×20m	14-22	37	Y250N-6	54.14
Φ3×20m	16-25	55	Y250M-4	78
Φ3×25m	32-36	75	YR280M-4	104.9

The system process flow is as shown in Figure 1.

The system principle of drying process is as shown in Figure 2.

Figure 1 Drying System Process Flow

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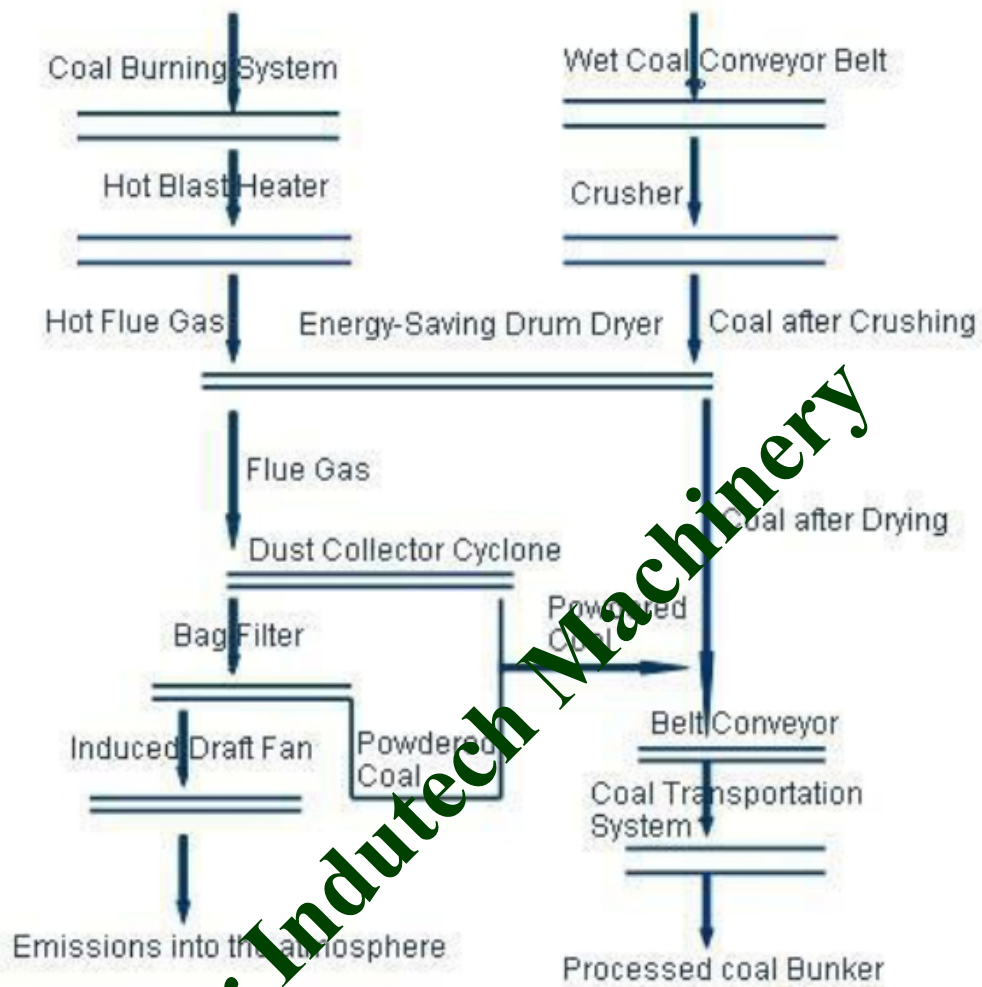
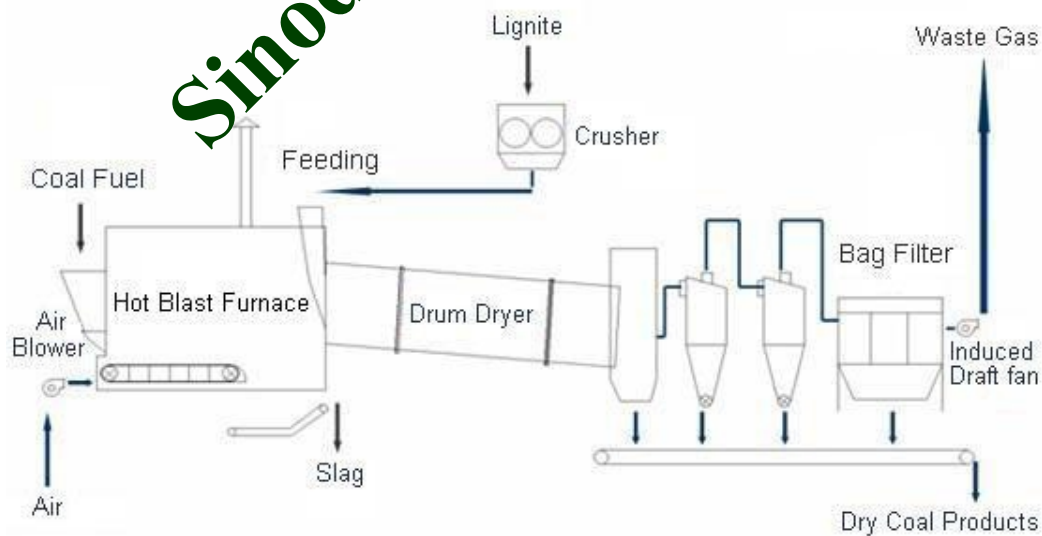


Figure 2 Principle of Drum Drying



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Drum Coal Drying System

The drying machine is a rotary metal drum, which is set at an angle about 3-5 degree and rotates at a speed of 2-8 R/Min. The coal remains in the drum for 8-12min. The coal drum dryer are uniflow which mean the hot fuel gas and coal are fed in one end and discharged at the other. The heat exchange takes place during the process of gas-solids concurrent flow in the drum.

1. The process is simple and operation reliable. The factory is reasonably and compactly laid out as a whole with a combination of feeding,

crushing, drying and discharging. The total investment is low and service life is long.

2. The temperature of the heat transfer medium can be up to 600°C, and down to 100°C when discharging. The drying thermal efficiency is high compared with other drying system.

3. The feeding quantity is adjustable with sealed coal feeder. The coal flows fluent and unblocked.

4. Measures are adopted to collect the dust and prevent the smoke at the drying drum, hot blast furnace and system transfer point. You will not see the air rebounded with dust and smoke

5. Automatic monitoring system can monitor temperature and pressure at four points: furnace, dryer inlet, and dryer outlet, inlet of induced draft fans which guarantee the normal and safe production.

6. Big volume drum dryer is adopted to shorten the residence time of coal in the dryer to prevent coal burning and pulverization.

Coal Drying Projects

No.	Project Item	Notice
1	Huaren county quanxi coal washing company	
2	Second Stage Drying Project of Henan Tianhong Coking (Group) Company	
3	Pinmei Group Chemical Limited Company	
4	Pindingshan Jiaohong Coke Company Limited	
5	Xiaoyi Jinhui Coking Company Limited	
6	Pingdingshan Jiuding Trade & Industry Co.,Ltd	
7	Pingdingshan Hongyao Coke Co.,Ltd	
8	Inner Mongolia Yidong Keyu High Technology Co., Ltd	
9	Handan Coal Prep Plant of Fengfeng Group	
10	Pingdingshan Huayang coal company	
11	Coal Chemical Branch of Datang International	
12	Jiaozuo Coal Chemical Group	
13	Coal Chemical Co.,Ltd of Inner Mongolia	
14	Shanxi Dayukou coal industry company	

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In designing the drum dryer, we consider reliable performance, high capacity, high thermal efficiency, avoidance of caking, etc. In designing furnace, we consider easy ignition, quick heating, etc. In designing the dust collector, we chose deducting cyclone, which is high temperature resistant and without moving components, and high efficient pulse bag filter.

We have high technical strength and abundant work experience, which can assume technical and equipment design as well as provision of supporting equipments for coal drying system. It can also provide hot blast stove, dust collector, feeding and discharge machines as well as system auto monitoring equipments compatible with drying system. Owing to the adoption of new technologies, new techniques and new equipments, this system has a profound application in coal selection industry, chemical industry and coking industry both domestically and abroad, and has brought considerable economic and social benefits for its customers.

In recent years, the research office has abundant experiences through extensive efforts on the research of coal drying technologies, and has obtained numerous technological achievements and national-level patents of advanced international level.

Please provide the following information for a preliminary coal drying system design and quotation

1. What is the particle size distribution of the raw coal? Please note that the coal fed into our drying system should be less than 50mm.
2. What are the requirements of drying capacity per hour and per annual? What is the local work system about working hours per shift and per day? How many days they work per annual?
3. What is the moisture content of the raw coal as received basis? What is the moisture content on air dried basis?
4. What is the lower heating value of the raw coal?
5. What is the requirement of the moisture content of the dried coal?
6. What is the local climate condition?
7. What's the coal type?

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Rotary Drum Dryer Drying Project Flow and Site for Reference



Sinoder Coal Rotary Drum Drying Projects

