

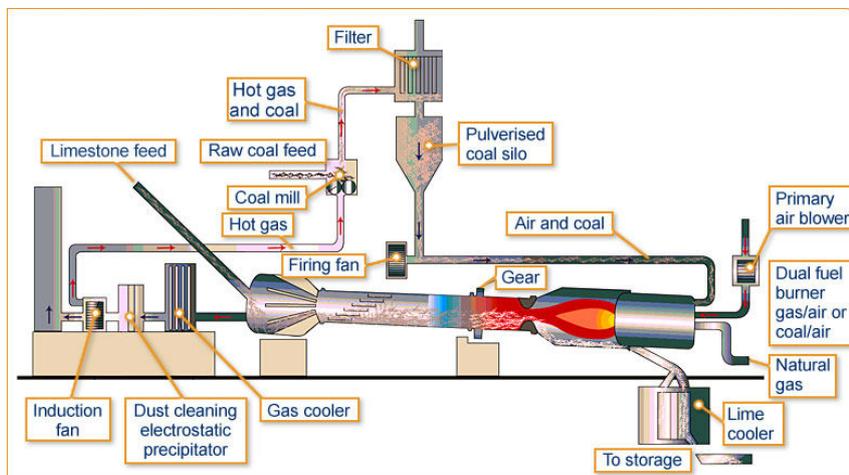
Lime production line



Lime production line is a complete production line that includes vertical preheater, rotary kiln, grate cooler, raw material conveyor system, finished product conveyor system, air treatment system, raw coal grinding system, and so on.

Service and Solution :

[Great Wall Corporation](#) can provide technological solutions and complete production equipment for quicklime (active lime) production line.



- Capacity: 50-700T/D

- Professional engineer team.

- Mature experience, and project cases more than 100 till 2011.

- use the new type, energy saving and environmental system, so

fuel consumption can be reduced 40%, output capacity can increase 30%.

Rotary kiln used for lime production Specifications

Rotary dryer:

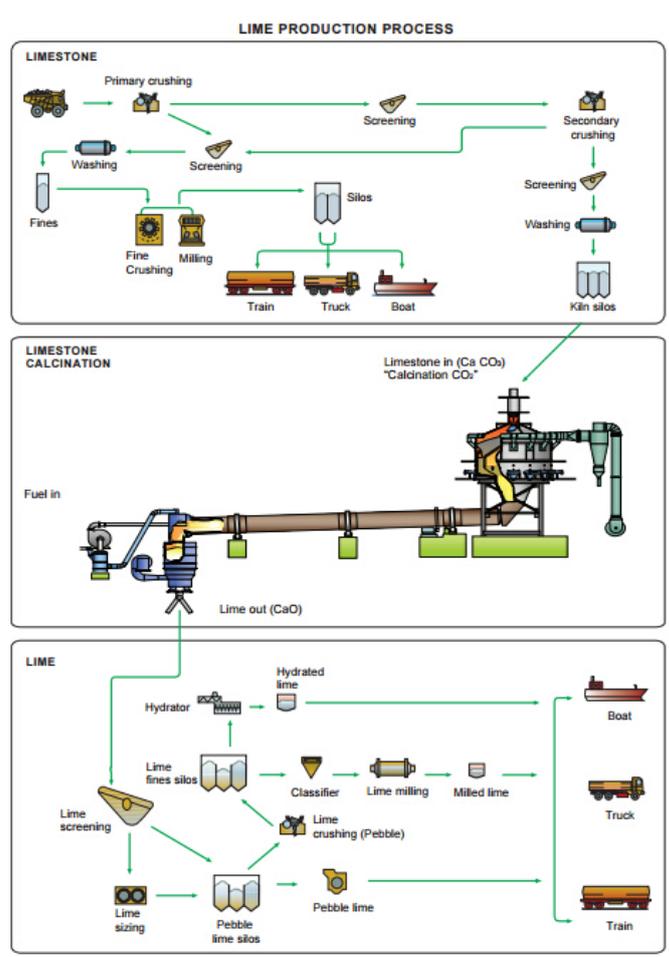
The limestone calcining system is mainly made up of vertical preheater, rotary kiln and vertical cooler whose output is 600t/d and heat consumption of 5.75GJ/t. In the preheater limestone is heated by high-temperature air to 600-800°C, at which

temperature limestone can be partly decomposed. This will increase the work efficiency of rotary kiln and reduce the cost. Then the limestone will be sent into the rotary kiln, where it will undergo high-temperature calcination before sent to the vertical cooler. The processed lime will be cooled down with cold air to 65°C. Air from the vertical cooler enters into the rotary kiln as the second air to take part in calcining process.

Advantages of our [lime production line](#)

1. Good quality and high activity.
2. It is suitable for large-scale lime production line.
3. Running stable, the whole process using negative pressure, air flow freely and high production safety
4. Using the bag filter system, it can reduce the exhaust gas
5. It shortens kiln length, so it can reduce heat loss and area.
6. Cooler and kiln hood cover designed together, good seal, saving area.

Process and equipment:



1. Raw material conveying system

Limestone, dolomite after crushing in the mine would be shipped to the factory and by truck to the material pit, after screening, then conveying to raw material storage.

2. Active lime calcining system

Active lime calcining system consists of a vertical preheater, rotary kiln, cooler.

Vertical preheater: Vertical preheater is composed of a preheater body, a storage bin, a feeding pipe, hydraulic push rod device etc..

3. Pulverized coal preparation system

Pulverized coal preparation system is an important part of active lime rotary kiln system.

Finished lime is conveyed to bucket elevator through chain bucket machine by cooler, then into top sieving grain silo by elevator, qualified part $\geq 5\text{mm}$ conveying to finished product bin by belt conveyor, powder $\leq 5\text{mm}$ conveying to powder bin

4. Finished product conveying system

Finished lime is conveyed to bucket elevator through chain bucket machine by cooler, then into top sieving grain silo by elevator, qualified part $\geq 5\text{mm}$ conveying to finished product bin by belt conveyor, powder $\leq 5\text{mm}$ conveying to powder bin.

5. Flue gas treatment system

High temperature flue gas from rotary kiln combustion, after the heat exchange with the limestone in preheater, the temperature dropped to 260 °C below, cooling through multi tube cooler and then into the high-temperature bag type dust collector. After dust collector, high temperature fan into the atmosphere through the chimney, the dust concentration is less than 30mg/Nm³.

Matching:

Vertical preheater is one of the main active lime equipment, the main effect of vertical preheater is the limestone material sent to the preheater, and use high temperature exhaust gas from the kiln calcining out emissions (1150 degrees Celsius), the material in the preheater evenly heated to about 900 degrees Celsius.

Vertical preheater system mainly consists of six parts

1. Feeding system: mainly including the upper house, the discharge pipe, the materials and structure that can guarantee the body feeding safety sealed in preheater, so that the outside of cold air cannot enter into preheater inside, and material feeding can use stick valve to achieve continuous or intermittent feeding.

2. Preheater: it is the most important part of ensuring the material preheated to 900 degrees Celsius, which is composed of a preheating chamber, a suspension device and a refractory lining (this does not belong to the scope of equipment design and manufacturing) and other parts. This part of the structure is mostly metal component material selection, part of the heat-resistant steel according to the needs, working at 1000~1100 degrees Celsius high temperature heat-resistant steel. In addition, the refractory lining structure has the advantages of novel design, good sealing performance, can ensure material in preheater evenly preheated and achieve preheating temperature.

3. The pushing device: mainly including pusher, frame and the connecting rod part, pusher heat-resistant steel casting or welding to become, can withstand high

temperatures, with the help of electric and hydraulic system, the hydraulic push rod can be automatic control procedures followed by pushing.

4. **Hydraulic system:** mainly comprises an oil tank, pump, motor, electromagnetic valve, hydraulic tubing, his main role is to control the pushing device, complete the pushing action.

5. Charging room: mainly including the chute feeding chamber, charging spout, body, its main function is to the material into the rotary kiln preheated calcined within.

6. Framework: It includes columns, ring beams , the main role is to carry the upper structure of the preheater

Rotary kiln Specifications

Model	Output (t/d)	Main Drive (r/min)	Motor (kW)	Regulating Range (r/min)	Gearbox Velocity Ratio	Weight (t)
Φ2.2×50	96	0.125-1.25	30	132-1320	157	130.71
Φ2.5×50	130	0.516-1.549	55	440-1320	99.96	167.5
Φ3×48	850	0.3309-3.309	90	100-1000	32.11	237
Φ3.2×48	1000	0.375-3.75	160	100-1000	27.469	252
Φ3.2×50	1200	0.398-3.975	190	150-1500	40.85	263
Φ3.3×52	1200	0.391-3.91	190	100-1000	27.707	280.8
Φ4×60	2500	0.396-3.96	315	100-1000	34.601	487.5
Φ4.2×60	2800	0.4165-4.165	420	100-1000	35.526	576.1
Φ4.3×62	3000	0.398-3.98	420	100-1000	35.714	598.5
Φ4.3×64	3200	0.449~4.49	450	100~1000	24.365	585
Φ4.5×66	4000	0.41~4.1	630	100~1000	34.069	710.4
Φ4.8×70	5000~5500	0.4~4.0	630	100-1000	30.876	845.3
Φ4.8×72	5000	0.403~4.03	560	100~1000	30.365	847
Φ4.8×74	5000	0.35~4	630	130~1500	42.226	841

Main Equipment:

NO.	Equipment name	Specification	Type	quantity
1	rotary kiln	Φ4.0×60m		1
2	vertical preheater	Φ10.5×8.5m		1
3	vertical cooler	105m ³	4.2*9m	1
4	multi pipe cooling machine	dealing air : 260000m ³ /h		1
5	High temperature exhaust fan	900kw, 10KV		1
6	coal mill system	8-10t/h	PDM1250	1
7	Gas/coal burning system		four way burner	1
8	dust collector equipment			
8.1	kiln tail flue dust collector	dealing air : 260000m ³ /h	LCMD-3660	1
8.2	coal grinding dust collector	dealing air : 45000m ³ /h	FGM128-6(M)	1
8.3	cooling dust collector	dealing air : 18600m ³ /h	PPc64-4	1
8.4	finished product screening dust collector	dealing air : 18600m ³ /h	PPc64-4	1
9	accessory equipment			
9.1	bucket elevator		NE100	1
9.2	Circular vibrating screen		YA1536	1
9.2	Circular vibrating screen		YA1236	1
9.4	chain scraper conveyor		DS500	1
9.5	belt conveyor			6
10	fan			
10.1	axial flow fan			4
10.2	centrifugal fan			2

10.3	coal mill fan			1
10.4	roots fan			3