英用机械

YING YONG MACHINERY



SHANGHAIYINGYONGMACHINERYCO.,LTD
No.955JianchuanRoad,MinhangDistrict,Shanghai

上海英用机械有限公司
上海市闵行区剑川路955号

电话(Tel):+862154320331
传真(Fax):+862154320331
E-mail:info@shyychina.com

www.shyychina.com

回转窑产品
Rotary Kiln Products

专业执着、精益求精
PROFESSIONALISM,PERSISTENCE,PERFECTION

上海英用机械有限公司
SHANGHAIYINGYONGMACHINERYCO.,LTD

水泥回转窑
Cement Rotary Kiln

1.设备概述 / Equipment Overview



水泥回转窑属于建材设备类，是石灰窑的一种。回转窑按处理物料不同可分为水泥回转窑、冶金化工回转窑和石灰回转窑。水泥回转窑是水泥熟料干法和湿法生产线的主要设备。

Cement rotary kiln belongs to building materials equipment class, is a kind of lime kiln. Rotary kiln can be divided into cement rotary kiln, metallurgical and chemical rotary kiln and lime rotary kiln according to different materials. Cement rotary kiln is the main equipment of cement clinker dry and wet production line.

2.水泥回转窑结构/ Cement rotary kiln structure

水泥回转窑由筒体，支承装置，带挡轮支承装置，传动装置，活动窑头，窑尾密封装置，喷煤管装置等部件组成。回转窑的窑体与水平呈一定的倾斜，整个窑体由托轮装置支承，并有控制窑体上下窜动的挡轮装置，传动系统除设置主传动外，还设置了在主电源中源断时仍能使窑体转动，防止窑体弯曲变形的辅助传动装置，窑头、窑尾密封装置采用了先进的技术，保证了密封的可靠性。

Cement rotary kiln is composed of cylinder body, supporting device, supporting device with thrust roller, transmission device, movable kiln head, kiln tail sealing device, coal injection pipe device and other components. The kiln body of the rotary kiln is inclined to a certain level. The whole kiln body is supported by the supporting roller device, and there is thrust roller device to control the up and down movement of the kiln body. When the power supply is cut off, the kiln body can still be rotated, and the auxiliary transmission device to prevent the kiln body from being bent and deformed. The kiln head and kiln tail sealing devices adopt advanced technology to ensure the reliability of sealing.

3.规格参数 / Specification parameters

规格 specifications	生产能力 Production capacity	窑体转速 Kiln speed	主电动机 Main motor		主减速器 Main reducer	重量 Weight
m	t/d	r/min	型号 model	kw	型号 model	t
Φ3.2×50	1000	0.36～3.57	ZSN4-280-091B	160	NZS995-40	259
Φ3.3×50	1200	0.36～3.57	ZSN4-280-091B	160	NZS995-40	266
Φ3.5×52	1500	0.35～3.51	ZSN4-315-082	190	NZS995-25	318
Φ3.5×54	1500	0.41～4.06	ZSN4-315-072	250	ZSY560-40	327
Φ4.0×60	2500	0.41～4.07	ZSN4-355-092	315	YNS1110-22.4V	446
Φ4.2×60	3000	0.4～3.98	ZSN4-355-12	375	JH560-SW-28	491
Φ4.3×60	3200	0.4～4.0	ZSN4-355-12	400	YNS1400-31.5	536
Φ4.3×62	3200	0.4～4.0	ZSN4-355-12	420	YNS1400-31.5VIBL	547.5
Φ4.3×64	3500	0.4～4.0	ZSN4-355-12	420	YNS1400-31.5VIL	552
Φ4.3×66	3500	0.4～4.0	ZSN4-355-12	450	YNS1400-31.5VIBL	560
Φ4.8×74	5000	0.35～4.0	ZSN4-400-092	630	JH710c-SW305-40	859
Φ5.0×74	6000	0.35～4.0	ZSN4-450-092	710	JH800c-SW306-28	877
Φ5.6×87	8000	0.35～4.0	ZSN4-450-12	800	JH900c-SW305-25	1201
Φ6.0×95	10000	0.35～4.0	ZSN4-500-092	950×2	JH900c-SW305-28	1580
Φ6.2×96	12000	0.35～4.0	ZSN4-560-092	1100×2	JH900c-SW305-28	1730

石灰石回转窑
Limestone Rotary Kiln

1.石灰的用途 / Purpose of lime

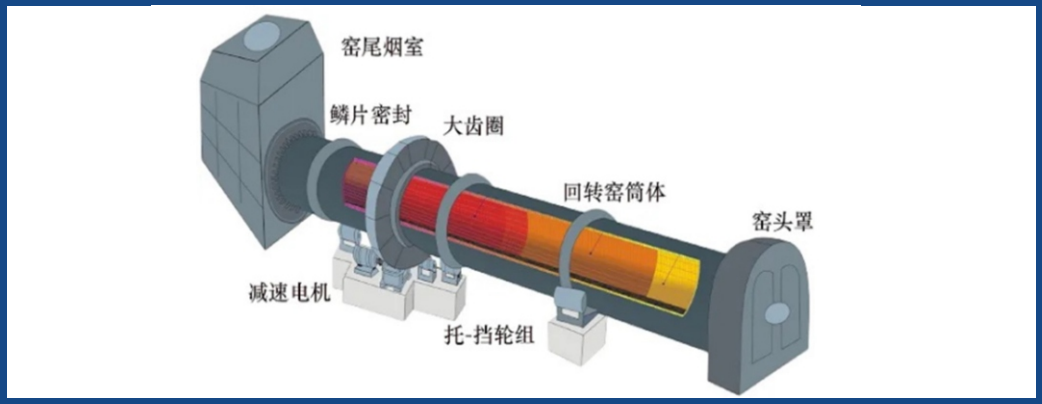
石灰的用途是非常广泛的。常见于建筑、建材、冶金、化工、轻工、环保、医药和农业等众多领域。特别是在炼钢、炼铁、烧结、铜、铝冶炼等行业中，将石灰作为造渣剂、溶解剂或烧结材料等方面，它都发挥出了非常重要的作用。



The uses of lime are very wide. Common in construction, building materials, metallurgy, chemical, light industry, environmental protection, medicine and agriculture and many other fields. Especially in steelmaking, ironmaking, sintering, copper, aluminum smelting and other industries, lime as slag-making agent, dissolving agent or sintering material, it has played a very important role.

2.设备概述 / Equipment Overview

石灰石回转窑作为煅烧活性石灰的窑炉，随着钢铁冶炼工艺发展的需要，经过长期的生产实践表明，它在满足钢铁冶炼需要的同时，亦在其它冶金行业中充分地体现出了它在大工业生产中的优越性和可持续发展的远景。活性石灰产品，在钢铁企业特别是在转炉炼钢中被广泛的使用，用作造渣剂。在缩短冶炼时间，提高产品质量，优化冶炼技术，提高经济效益等方面都发挥出了极其重要的作用。



As a kiln for calcination of active lime, with the development of iron and steel smelting technology, the long-term production practice shows that the limestone rotary kiln not only meets the needs of iron and steel smelting, but also fully embodies its superiority in large-scale industrial production and the prospect of sustainable development in other metallurgical industries.Active lime products are widely used as slagging agent in iron and steel enterprises, especially in converter steelmaking. It plays a very important role in shortening smelting time, improving product quality, optimizing smelting technology and improving economic benefits.

设备组成:危废回转窑由筒体、轮带、托轮、挡轮、传动装置和窑头窑尾密封装置等部分组成。
Equipment composition:The hazardous waste rotary kiln is composed of cylinder, tyre ring, supporting roller, thrust roller, transmission device, and sealing device at the kiln head and kiln tail.

3.规格参数 / Specification parameters

设计能力 Designing ability		150	200	250	300	350	400	500	600	750	800	1000
产品 product		活性石灰轻烧白云石 Active lime light burning dolomite	活性石灰轻烧白云石 Active lime light burning dolomite	活性石灰轻烧白云石 Active lime light burning dolomite	活性石灰轻烧白云石 Active lime light burning dolomite	活性石灰 Active lime	活性石灰 Active lime	活性石灰 Active lime	活性石灰 Active lime	活性石灰 Active lime	活性石灰 Active lime	活性石灰 Active lime
回转窑 rotary kiln	规格 specifications (m)	Φ2.5x40	Φ2.8x42	Φ3x46	Φ3.2x50	Φ3.5x54	Φ3.6x5	Φ3.8x58	Φ4.2x50	Φ4.3x58	Φ4.3x64	Φ4.8x68
	有效容积 Effective volume (m^3)	142	190	235	292	390	430	505	575/548	670	738	1005
	燃烧温度 combustion temperature	1350/1250	1350/1250	1350/1250	1350/1250	1350	1350	1350	1350	1350	1350	1350

合格的石灰石存放在料仓内，经提升机提升并运入预热器顶部料仓。预热器顶部料仓，由上下2个料位计控制加料量，然后通过下料管将石灰石均匀分布到预热器各各室内。
石灰石在预热器被1150°C窑烟气加热到900°C左右，约有30%分解，经液压推杆推入回转窑内，石灰石在回转窑内经烧结分解为CaO和CO2。分解后生成的石灰石进入冷却器，在冷却器内被鼓入的冷空气冷却到100°C一下排出。经热交换的600°C热空气进入窑和煤气混合燃烧。废气在兑入冷风经引风机进入袋式除尘器，再经排风机进入烟囱。
出冷却器的石灰经振动喂料机，链斗输送机、斗式提升机、胶带输送机送入石灰成品库。根据客户要求是否进行筛分等工序。
石灰回转窑技术工艺先进，结构简单，低压损的预热器能有效提高预热效果，经预热后的石灰石入窑分解率可达20-25%，有效的提高了回转窑的产量，降低了热耗。并可直接利用20-60mm细粒级石灰石进行煅烧。除常规工艺生产线外，还配有高端配置六推头预热器，八推头预热器，十推头预热器，十二推头预热器。

Qualified limestone is stored in the hopper, which is lifted by the hoist and transported to the top hopper of the preheater. The top bin of the preheater is controlled by the upper and lower two level gauges, and then the limestone is evenly distributed to each room of the preheater through the blanking pipe.
The limestone is heated to about 900°C by 1150°C kiln flue gas in the preheater, about 30% of which is decomposed and pushed into the rotary kiln by hydraulic push rods. The limestone is sintered into CaO and CO2 in the rotary kiln. The limestone formed after decomposition enters the cooler, where it is cooled to 100°C by the cold air pumped in and discharged. The hot air at 600°C through heat exchange enters the kiln and the gas is mixed for combustion. The waste gas is mixed into the cold air through the induced draft fan into the bag filter, and then through the exhaust fan into the chimney.
The lime from the cooler is sent into the finished product warehouse by vibrating feeder, chain bucket conveyor, bucket elevator and belt conveyor. Whether to carry out screening and other processes according to customer requirements.
Lime rotary kiln technology advanced, simple structure, low pressure loss preheater can effectively improve the preheating effect, after preheating limestone into the kiln decomposition rate can reach 20-25%, effectively improve the output of rotary kiln, reduce the heat consumption. And can be directly calcined using 20-60mm fine limestone. In addition to the conventional production line, we also have high-end configuration of six pusher preheater, eight pusher preheater, ten pusher preheater, twelve pusher preheater.

钛白粉回转窑
Titanium Dioxide rotary Kiln

1.钛白粉的用途 / The use of titanium dioxide

钛白粉(titanium dioxide)，是一种重要的无机化工颜料，主要成分为二氧化钛。钛白粉的生产工艺有硫酸法和氯化法两种工艺路线。[1] 在涂料、油墨、造纸、塑料橡胶、化纤、陶瓷等工业中有重要用途。

Titanium dioxide (titanium dioxide) is an important inorganic chemical pigment whose main component is titanium dioxide. The production process of titanium dioxide has two process routes: sulfuric acid method and chlorination method. [1] It has important uses in coatings, inks, papermaking, plastic rubber, chemical fiber, ceramics and other industries.

2.设备概述 / Equipment Overview



钛白粉煅烧窑的结构类似于氧化铝、水泥等行业中的回转窑，其筒体由钢板卷制而成，内镶砌耐火衬，与水平线形成规定的角度。筒体上套有三件矩形轮带支撑在各档支撑装置上。在中间轮带附近的筒体上用切向弹簧板固定一个大齿圈，其下300处有一小齿轮与其啮合。正常运转时，由主传动电动机经主减速器向该开式齿轮装置传递动力，驱动回转窑。

The structure of titanium dioxide calcining kiln is similar to that of rotary kiln in alumina, cement and other industries. Its cylinder is made of rolled steel plate and lined with refractory lining, forming a specified angle with the horizontal line. Three rectangular wheel belts are sleeved on the cylinder and supported on each gear support device. A large gear ring is fixed on the cylinder near the middle wheel belt with a tangential spring plate, and a pinion is meshed with it at the lower 300. During normal operation, the main drive motor transmits power to the open gear device through the main reducer to drive the rotary kiln.

3.设备组成 / Equipment composition

钛白粉回转窑由筒体、轮带、托轮、挡轮、传动装置和窑头窑尾密封装置等部分组成。

The titanium powder rotary kiln is composed of cylinder, tyre ring, supporting roller, thrust roller, transmission device, and sealing device at the kiln head and kiln tail.

4.规格参数 / Specification parameters

钛白粉窑技术性能表规格 Technical performance table of titanium dioxide kilnspecifications	基本参数 Basic parameter		电机功率 motor power	支承 bearing		挡轮 Catch wheel		重量 Weight	外形尺寸 Overall dimensions			备注 note
	转速 speed	斜度 slope		数量 quantity	轴承形式 Bearing form	数量 quantity	形式 Form		长 long	宽 wide	高 high	
	r/min	%	kw					t	m			
Φ1.8×28	0.504～1.51	3.5	30/10	3	滚动 rolling	1	机械 mechanical	59.39				
Φ1.8×32	0.504～1.51	4	30/10	3	滚动 rolling	1	机械 mechanical	62.45				带喷煤管 With coal injection pipe
Φ1.8×45	0.66～1.98	4	30/10	3	滚动 rolling	1	机械 mechanical	80	48	6.5	5.0	
Φ2.2×45	0.85～2.54	3	55	3	滚动 rolling	1	机械 mechanical	142.65	35	5.7	5.3	
Φ2.2×32	0.4～1.2	3.5	30/10	3	滚动 rolling	1	机械 mechanical	121.2				
Φ2.4×38	0.2～0.6	2.2	30	3	滚动 rolling	1	机械 mechanical	141.94				煅烧钛白粉 Calcined titanium dioxide
Φ2.5×50	0.5～1.05	3	55	3	滚动 rolling	1	机械 mechanical	180				带喷煤管 With coal injection pipe
Φ2.5×60	0.3～1.0	4	55	4	滚动 rolling	1	机械 mechanical	217	63	6.1	5.8	不带喷煤管 No coal injection pipe
Φ3.0×40	0.5～1.5	3	75	3	滚动 rolling	1	机械 mechanical	257				
Φ3.0×45	0.444～1.332	3.5	55	3	滚动 rolling	1	机械 mechanical	200	47	6.5	5.9	
Φ3/3.6×60	0.7～1.35	3.5	80	4	滑动 sliding	1	滑动 sliding	310				
Φ3.6×50	0.686～2.06	4	160	4	滚动 rolling	1	机械 mechanical	522				
Φ3.6×52	0.55～2.06	4	125	4	滚动 rolling	1	机械 mechanical	395				
Φ4.5×100	0.856～2.57	4	2x200	4	滑动 sliding	1	液压 hydraulic	884				带喷煤管 With coal injection pipe
Φ4.5×110	0.856～2.57	4	2x200	5	滑动 sliding	2	液压 hydraulic	912	126.1	9.5	8.5	带喷煤管 With coal injection pipe

球团回转窑
Pelletizing Rotary Kiln

1.设备概述 / Equipment Overview



球团的焙烧固结在回转窑中进行。
回转窑内物料正常停留时间：25 ~ 35min
回转窑焙烧温度为1300 ~ 1350 ℃。回转窑窑头(出料端)设有燃烧器供热，同时将环冷机I冷却段的高温废气作为二次风给入窑内。预热球进入窑内随着窑体的转动而不停地翻滚，与高温热气流充分接触，从而达到均匀焙烧的目的。
球团在回转窑中经过25～30 min的高温焙烧，部分磁铁矿氧化成的 Fe203 微晶再结晶，大部分赤铁矿在高温下晶粒逐渐长大并再结晶和形成晶桥，同时在高温下产生的部分低熔点化合物都使得球团团结更致密、强度显著提高，可达 2500N/ 个球以上。

The pellets are roasted and consolidated in a rotary kiln.Normal residence time of materials in rotary kiln: 25 ~ 35minThe roasting temperature of rotary kiln is 1300 ~ 1350 ℃. The rotary kiln head (discharging end) is provided with a burner for heating, and the high temperature exhaust gas of the cooling section I of the ring cooler is fed into the kiln as secondary air. The preheating ball rolls in the kiln with the rotation of the kiln body, and fully contacts with the high temperature hot air flow, so as to achieve the purpose of uniform roasting.After the pellets were roasted at high temperature for 25-30 min in the rotary kiln, part of magnetite was oxidized into Fe203 microcrystalline recrystallization, and most of hematite grains gradually grew up, recrystallized and formed crystal Bridges at high temperature. Meanwhile, part of low melting point compounds produced at high temperature made the pellets more compact and increased the strength significantly. Up to 2500N/ ball above.

2.回转窑结构 / Rotary kiln structure

回转窑由筒体，支承装置，带挡轮支承装置，传动装置，活动窑头，窑尾密封装置，喷煤管装置等部件组成。回转窑的窑体与水平呈一定的倾斜，整个窑体由托轮装置支承，并有控制窑体上下窜动的挡轮装置，传动系统除设置主传动外，还设置了在主电源中源断时仍能使窑体转动，防止窑体弯曲变形的辅助传动装置，窑头、窑尾密封装置采用了先进的技术，保证了密封的可靠性。

Rotary kiln is composed of cylinder body, supporting device, supporting device with thrust roller, transmission device, movable kiln head, kiln tail sealing device, coal injection pipe device and other components. The kiln body of the rotary kiln is inclined to a certain level. The whole kiln body is supported by the supporting roller device, and there is thrust roller device to control the up and down movement of the kiln body. When the power supply is cut off, the kiln body can still be rotated, and the auxiliary transmission device to prevent the kiln body from being bent and deformed. The kiln head and kiln tail sealing devices adopt advanced technology to ensure the reliability of sealing.

3.规格参数 / Specification parameters

产品规格 Product specification (m)	生产能力 Production capacity (t/d)	主电机 Main motor		主减速机 Main reducer		重量 Weight (t)
		型号 model	功率(kw) power	型号 model	速比 Speed ratio	
Φ1.8x26	72	JZT2-72-4	30	JZQ750-1-Ⅰ	48.57	66
Φ2.2x45	98.4	JZT82-6	55	ZA125	93.93	104
Φ2.5x50	180	ZT3-72-4	30	ZS145-9-Ⅴ	122.8	173
Φ3x48	700	ZSN4-280-21	110	MSY56-28-Ⅱ	28	244
Φ3.2x50	1000	ZSN4-280-21B	160	MSY56-28-Ⅱ	28	252.4
Φ3.5x54	1500	ZSN4-3156-092	220	ZSY500-40-Ⅴ	40	368
Φ3.9x56	2000	Z4-280-32BTH	250	ZSY560-40-Ⅰ	40	417
Φ4x60m	2500	ZSN4-355-09Z	315	ZSY630-35.5-I	34.6	523
Φ4.3x60m	3000	ZSN4-355-12	375	ZSY710-40	40	553
Φ4.8x75m	5000	ZSN4-400-92	630	JH710-40	42	841

危废回转窑

Hazardous Waste Rotary Kiln

1.设备概述 / Equipment Overview

危废回转窑是针对危险废弃物中的固废、废液、废气和废浆(如有机污泥、无机污泥、医疗废物废液、石油化工废弃物、冶金化工废弃物等)的焚烧设备，回转窑设备通过转速的改变，可以调整废弃物在窑中的停留时间，并且对危险废弃物在高温空气及过量氧气中施加较强的机械碰撞，使废物物得到较大程度的燃烧处理，并得到最少程度的灰渣，便于后端工艺处理。

Hazardous waste rotary kiln is an incineration equipment for solid waste, waste liquid, waste gas and waste slurry in hazardous waste (such as organic sludge, inorganic sludge, medical waste waste liquid, petrochemical waste, metallurgical chemical waste, etc.). , the rotary kiln equipment can adjust the residence time of the waste in the kiln by changing the rotation speed, and apply strong mechanical collision to the hazardous waste in the high temperature air and excess oxygen, so that the waste can be burned to a greater extent. And get the least amount of ash, which is convenient for back-end process treatment.

2.规格参数 / Specification parameters

规格 Model	生产能力 Capacity (t/d)	窑体转速 Rotation speed (R/min)	电机功率 Motor power (kw)
Ø2.6×9	15	0.06~3(转速可调 Adjustable speed)	15
Ø3.0×13	30	0.06~3(转速可调 Adjustable speed)	22
Ø3.3×12	50	0.06~3(转速可调 Adjustable speed)	22
Ø3.6×11	70	0.06~3(转速可调 Adjustable speed)	37
Ø3.8×16	100	0.06~3(转速可调 Adjustable speed)	37
Ø4.3×16	100-120	0.06~3(转速可调 Adjustable speed)	45



设备组成
Equipment composition

危废回转窑由筒体、轮带、托轮、挡轮、传动装置和窑头窑尾密封装置等部分组成。

The hazardous waste rotary kiln is composed of cylinder, tyre ring, supporting roller, thrust roller, transmission device, and sealing device at the kiln head and kiln tail.

红土镍矿回转窑
Laterite Nickel Ore Rotary Kiln

1.红土镍矿的用途 / The use of laterite nickel ore

金属镍的磁性和可塑性都非常良好，同时又具有很好的抗腐蚀性和延展性.其主要用于合金的掺杂和金属催化剂等方面，尤其是作为氢化的催化剂.将镍镀在其他金属表面上可以防止金属的氧化锈蚀.镍在合金方面主要用来制造不锈钢和其他抗腐蚀材料，含镍成分较高的合金，抗腐蚀能力就越强.同时镍在加氢催化剂、精工陶瓷制品、特殊用途的化学器皿、工业电池、绿色玻璃以及镍化合物制备等方面也有广泛的用途。

Metal nickel has very good magnetic properties and plasticity, and at the same time has good corrosion resistance and ductility . It is mainly used for alloy doping and metal catalysts, especially as a catalyst for hydrogenation . Nickel is plated on other metals It can prevent the oxidation and corrosion of metals on the surface . Nickel is mainly used in alloys to make stainless steel and other anti-corrosion materials. The alloy with higher nickel content has stronger anti-corrosion ability . It is also widely used in chemical vessels for special purposes, industrial batteries, green glass and the preparation of nickel compounds.



2.设备组成 / Equipment composition

红土镍矿回转窑由筒体、轮带、托轮、挡轮、传动装置和窑头窑尾密封装置等部分组成。

The red nickel ore rotary kiln is composed of cylinder, tyre ring, supporting roller, thrust roller, transmission device, and sealing device at the kiln head and kiln tail.

4.规格参数 / Specification parameters

产品规格 Product specification(m)	窑体尺寸Kiln body size					电机功率 Motor power (kw)	总重量 Total weight (t)	备注note
	直径 diameters(	长度 Length (m)	斜度 slope (%)	产量 production (t/d	转速 speed (r/min)			
Φ2.5×40	2.5	40	3.5	180	0.44-2.44	55	149.61	------
Φ2.5×50	2.5	50	3	200	0.62-1.86	55	187.37	------
Φ2.5×54	2.5	54	3.5	280	0.48-1.45	55	196.29	窑外分解窑 Decomposition kiln outside the kiln
Φ2.7×42	2.7	42	3.5	320	0.10-1.52	55	198.5	------
Φ2.8×44	2.8	44	3.5	450	0.437-2.18	55	201.58	窑外分解窑 Decomposition kiln outside the kiln
Φ3.0×45	3	45	3.5	500	0.5-2.47	75	201.94	------
Φ3.0×48	3	48	3.5	700	0.6-3.48	100	237	窑外分解窑 Decomposition kiln outside the kiln
Φ3.0×60	3	60	3.5	800	0.3-2	100	310	------
Φ3.2×50	3.5	50	4	1000	0.6-3	125	278	窑外分解窑 Decomposition kiln outside the kiln
Φ3.3×52	3.3	52	3.5	1300	0.266-2.66	125	283	预热分解窑Preheated decomposing kiln
Φ3.5×54	3.5	54	3.5	1500	0.55-3.4	220	363	预热发电窑Preheat electricity kiln
Φ3.6×70	3.6	70	3.5	1800	0.25-1.25	125	419	预热分解窑Preheated decomposing kiln
Φ4.0×56	4	56	4	2300	0.41-4.07	315	456	预热分解窑Preheated decomposing kiln
Φ4.0×60	4	60	3.5	2500	0.396-3.96	315	510	预热分解窑Preheated decomposing kiln
Φ4.2×60	4.2	60	4	2750	0.41-4.07	375	633	预热分解窑Preheated decomposing kiln
Φ4.3×60	4.3	60	3.5	3200	0.396-3.96	375	583	预热分解窑Preheated decomposing kiln
Φ4.5×66	4.5	66	3.5	4000	0.41-4.1	560	710.4	预热分解窑Preheated decomposing kiln
Φ4.7×74	4.7	74	4	4500	0.35-4	630	849	预热分解窑Preheated decomposing kiln
Φ4.8×74	4.8	74	4	5000	0.396-3.96	630	899	预热分解窑Preheated decomposing kiln
Φ5.0×74	5	74	4	6000	0.35-4	710	944	预热分解窑Preheated decomposing kiln
Φ5.6×87	5.6	87	4	8000	Max4.23	800	1659	预热分解窑Preheated decomposing kiln
Φ6.0×95	6	95	4	10000	Max5	950×2	1659	预热分解窑Preheated decomposing kiln



锂辉石焙烧回转窑
Spodumene Roasting Rotary Kiln

1.设备概述 / Equipment Overview

该回转窑具有结构简单，运转可靠，生产过程容易控制等特点。回转窑煅烧系统装备通过技术创新，在该系统中采用国内外先进的液压挡轮装置、采用计量精度很高的计量柱塞泵、高精度的调速阀和接触式石墨块密封装置等国内先进技术。窑头可以采用工业电视看火，工艺流程模拟荧光屏，煅烧带采用红外线扫描仪把煅烧带的煅烧情况直接反映在计算机上，这些新技术的使用直观感强，操作方便，使用可靠。稳定了热工制度，提高了设备运转率，与同规格设备相比，产量提高了10%，热耗降低15%。

The rotary kiln has the characteristics of simple structure, reliable operation and easy control of the production process. Through technological innovation, the rotary kiln calcination system equipment adopts domestic and foreign advanced hydraulic stopper device, metering plunger pump with high metering accuracy, high-precision speed control valve and contact graphite block sealing device and other domestic advanced equipment. technology. The kiln head can use industrial TV to watch the fire, the process flow simulates the fluorescent screen, and the calcination belt uses an infrared scanner to directly reflect the calcination status of the calcination belt on the computer. These new technologies are intuitive, easy to operate, and reliable to use. The thermal system is stabilized and the equipment operation rate is improved. Compared with equipment of the same specification, the output is increased by 10%, and the heat consumption is reduced by 15%.

2.设备组成 / Equipment composition

锂辉石回转窑由筒体、支承装置、带挡轮支承装置、传动装置、活动窑头、窑尾密封装置、燃烧装置等部件组成.

The spodumene rotary kiln is composed of cylinder, tyre ring, supporting roller, thrust roller, transmission device, and sealing device at the kiln head and kiln tail, burning device.

3.锂辉石回转窑工艺 / Spodumene rotary kiln technology

锂辉石精矿从精矿库人工送至斗式提升机提升至精矿仓，再经圆盘给料机和螺旋给料机加入碳酸锂回转窑窑尾，利用窑尾预热段高温气体干燥精矿，精矿在煅烧段约1200℃左右的温度下进行晶型转化焙烧，由α型(单斜晶系，密度3150kg/m3)转化为β型锂辉石（四方晶系，密度2400kg/m3，即焙料），转化率约98%。

The spodumene concentrate is manually sent from the concentrate silo to the bucket elevator to be lifted to the concentrate bin, and then added to the kiln tail of the lithium carbonate rotary kiln through the disc feeder and screw feeder, and the high temperature gas in the preheating section of the kiln tail is used. The concentrate is dried, and the concentrate is converted into β-type spodumene (tetragonal system , density 2400kg) by crystal transformation and roasting at a temperature of about 1200 ℃ in the calcination section . /m3 , namely baking material), the conversion rate is about 98% .

4.规格参数 / Specification parameters

规格 specifications	产量 production (t/d)	支座数 Bearing number	减速机 reducer	电动机 motor	功率 Power (kW)
Ø2.2×38m	120	2组	ZS125-5	YVF2-225M-4	45
Ø2.5×40m	150	2组	ZS145-5	YVF2-250M-4	55
Ø2.8×43m	200	2组	ZS165-6	YVF2-280S-4	75
Ø3.0×50m	230	2组	ZS165-3	YVF2-280M-4	90
Ø3.2×50m	250	2组	ZL130-16	YVF2-315L2-6	132
Ø3.6×55m	400	2组	ZSY560-63	YVF2-355M1-6	160
Ø3.8×58m	500	2组	ZSY560-63	YVF2-355M2-6	185
Ø4.0×60m	600	2组	ZSY630-35.5	YVF2-355M4-6	200
Ø4.3×62m	800	2组	ZSY630-35.5	YVF2-355L3-6	150