



产品手册

Product manuals

—— 机制砂生产线

Manufactured sand production line



常州市龙城粉体设备有限公司
Changzhou Longcheng Powder Equipment Co.,Ltd.

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公司介绍

Company introduction

常州市龙城粉体设备有限公司从 2003 年开始从事机制砂成套设备的研发与制造;

公司是集机制砂成套设备的科技研发、制造安装、售前支持、售后服务于一身的高科技企业;

为了提高产品质量, 公司与常州工程职业技术学院共同组建了新材料技术与设备研发中心, 专门研究针对不同原材料和不同行业对砂的形状、级配、含粉率及行业产品的特殊性、生产配方、生产工艺与之相匹配的成套设备;

公司主要产品为:各种型号制砂机、整形机、筛选机、选粉机、输送机、除尘器及控制系统等系列产品;

公司根据用户需求及实际情况, 进行专业化、个性化设计, 做到各组成部分的合理配伍、价格合理、运转顺畅、节约能耗、维修简便、产品质量稳定;

公司已为全国 100 多家单位设计、制造、安装了各种规格的机制砂成套设备, 并获得了客户的一致好评;

公司在创业和发展过程中坚持“以精立业、以质取胜、以诚相待、以人为本”的企业宗旨。树立质量第一、用户至上、诚信为本的经营方针。

Changzhou Longcheng Powder Equipment Co., Ltd. has been engaged in the R&D and manufacturing of complete sets of mechanical sand equipment since 2003.

The company is a high-tech enterprise integrating R&D, manufacturing and installation, pre-sales support and after-sales service of complete sets of mechanical sand equipment.

In order to improve product quality, the company and Changzhou Vocational Institute of Engineering jointly set up a new material technology and equipment research and development center, specializing in the research of the complete set of equipment for different raw materials and different industries for sand shape, grading, powder ratio and particularity of industrial products, production formula, production process;

The main products of the company are: various types of sand making machine, shaping machine, sieve separator, powder separator, conveyor, powder collector and control system and other products;

According to user requirements and actual situation, the company carries out professional and personalized design, so as to achieve reasonable compatibility of each component, reasonable price, smooth operation, energy saving, easy maintenance and stable quality;

The company has designed, manufactured and installed complete sets of mechanical sand equipment of various specifications for more than 100 units in China, And obtained the consistent high praise of the customer;

The company insist on the enterprise tenet of the "Sophisticated technology, Superior quality, Sincere mutual respect, people-oriented". Set up quality first, customer first, integrity-based business policy in the process of entrepreneurship and development.



常州市龙城粉体设备有限公司
Changzhou Longcheng Powder Equipment Co., Ltd.





行业说明

Industry description



天然砂当前状况 Current status of natural sand

天然砂是不可再生的资源性材料,对天然砂的依赖和过量开采,破坏了长江和河道的生态环境。

天然砂需要用煤、油来进行烘干,烘干过程所释放的二氧化碳和烟尘造成环境污染,生产过程中还产生了煤、油能源消耗浪费的问题,所以一般不予核准环评手续。

天然砂资源日渐匮乏,国家严控采挖。

Natural sand is a non-renewable resource material, the dependence and excessive exploitation of natural sand have destroyed the ecological environment of the Yangtze River and the river course.

Natural sand needs to be dried with coal and oil. The carbon dioxide and soot released by the drying process cause environmental pollution, and the waste of coal and oil energy consumption is also produced in the production process, so the EIA procedures are generally not approved.

Natural sand resources are increasingly scarce, the state strictly controls mining.

机制砂行业综述 Review of mechanical sand industry

目前,一定规模的砂石生产基地年生产能力达1000万吨以上,一批大型的并具有规范设计的机制砂工厂化生产基地正在或拟建中。一批行业的机制砂机械设备制造骨干企业不断创新技术、开发新设备,引领行业技术进步和整体设备技术水平提升。从生产形势看,机制砂行业发展动力非常强劲。

At present, the annual production capacity of sand and stone production based on a certain scale is more than 10 million tons, and a batch of large sand factory production based on standard design are or are planned to be built. A number of industry backbone enterprises of Mechanical sand equipment continue to innovate technology, develop new equipment. leading the industry technology progress and the overall equipment technology level. From the production situation, the mechanism of sand industry development power is very strong.

政府有关部门制订的相关政策和标准 Relevant policies and standards formulated by relevant government departments

工信部委托建材协会开展并制定了“机制砂石行业发展指导意见”工作。国土资源部委托建材协会开展并制定“建设用砂石开采准入条件”人力资源和社会保障部修订了《国家职业分类大典》,完成了“砂石生产工”职业工种的相关工作的标准制定。

The Ministry of Industry and Information Technology entrusted building Materials Association to carry out and formulate the "mechanical sand industry development guidance".

Ministry of Land and Resources entrusts Building Materials Association to carry out and formulate "Access Conditions for Sand and Stone Mining for Construction".

The Ministry of Human Resources and Social Security has revised the National Occupational Classification Code and completed the formulation of standards for the related work of the occupational type of "sand and stone producer".





机制砂相对于河砂获取成本低；生产周期短；粒型品质好

The of mechanical sand have acquisition cost and short production cycle and good grain shape and quality compared with river sand

天然砂与机制砂的投资成本与运行成本 Investment cost and operation cost of natural sand and mechanical sand

同样的工作时间及生产产能，机制砂设备的投资成本要比天然砂烘干设备降低约 20%。

同样的工作时间及生产产能，机制砂运行成本要比天然砂运行成本减少约 25%。

With the same working time and production capacity, the investment cost of mechanical sand equipment is about 20% lower than that of natural sand drying equipment.

The operating cost of mechanical sand is about 25% lower than that of natural sand for the same working time and production capacity.

机制砂替代天然砂生产干粉砂浆已成为必然趋势。It has become an inevitable trend for machincal sand to replace natural sand in producing dry mortar.

机制砂及配砂石粉含量的控制 Control of mechanical sand and gravel powder content

机制砂细度模数:细度模数在 1.8-3.0;石粉:0.16-0.00mm 石粉含量在 5%-16%之间可调。Fineness modulus of mechanical sand: fineness modulus is 1.8-3.0; Stone powder :0.16-0.00mm stone powder content is adjustable between 5%-16%.

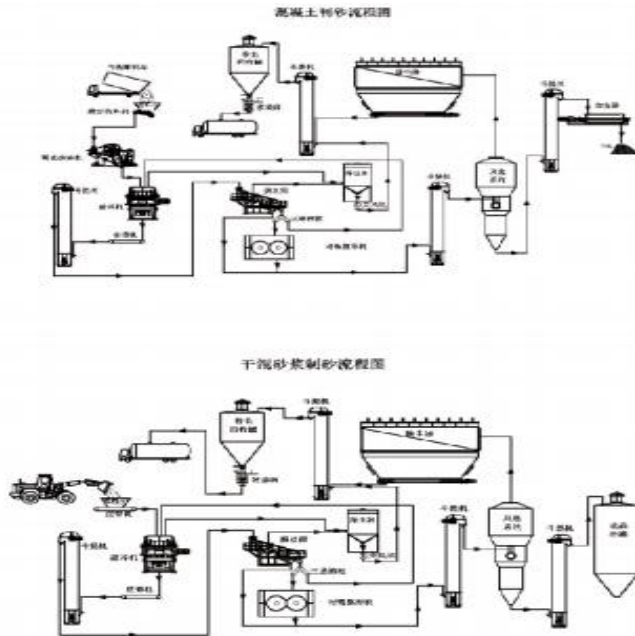
筛网尺寸 screen mesh size	筛余量 Weight of screen residue	分计筛余 (%) Percentage retained	累计筛余 (%) Accumulated retained percentage	筛余量 Weight of screen residue	分计筛余 (%) Percentage retained	累计筛余 (%) Accumulated retained percentage
4.75	0	0	0	0	0	0
2.5	72	14	14	65	13	13
1.25	76	15	30	94	19	32
0.63	97	19	49	96	19	51
0.315	99	20	69	95	19	70
0.16	79	16	85	82	16	87
筛底 Screen hole	76	15	100	67	13	100
合计 Summary	499	细度模数 MX=2.47 Fineness modulus MX=2.47		499	细度模数 MX=2.53 Fineness modulus MX=2.53	



机制砂与天然砂性能对比 Comparison of mechanical sand and natural sand properties

检验项目 Inspection item	单位 unit	标准值 standard values	机制砂 Mechanism sand	天然砂 Natural sand
稠度 Consistence	mm	≤110	97	99
2h 稠度损失 Loss of consistency in 2h	%	≤30	18	17
保水率 Water-retention rate	%	≥88	95.5	94.5
密度 density	Kg/m ³	≥1800	1874	1814
28 天抗压强度	mpa	≥5.0	6.8	5.4
凝结时间	h	≤10	8.2	8.8
28 天收缩率	%	≤0.5	0.04	0.03

工艺流程 Technological process



- 1、装载机将原料铲入斗中，由变频皮带送入破碎机。
- 2、破碎机采用立式离心冲击式破碎机，该机由离心盘带动物料与机体衬板撞击，物料与物料相互撞击的原理，使破碎出来的物料颗粒浑圆，级配合理。
- 3、破碎后的物料通过板链提升机进入圆振筛，圆振筛采用全封闭结构，除尘器直接与筛子连接，成负压状态，无粉尘扬起，筛上物通过板链提升机返回破碎机循环破碎，成品通过板链提升机进入细粉分离器。
- 4、物料进入细粉分离器后，由导流板把物料以重力抛物下落形式向下抛落，使物料充分分散下落；在引风机风速的作用下，把细粉分离出来，引风量可根据细粉的粗细和粉量多少来调节，粉尘在引风机作用下从选粉机顶部出口排出，通过脉冲布袋除尘器气粉分离后进入罐中存储。

1. The loader shovels the raw material into the bucket and feeds it into the crusher by the frequency conversion belt.
2. The crusher adopts vertical centrifugal impact crusher, which is driven by the centrifugal plate to impact the material and the lining plate of the body. The principle of collision between the material and the material makes the broken material particles round and reasonable grading.
3. After crushing the material through the plate chain elevator into the circular vibrating screen, the circular vibrating screen adopts fully closed structure, the dust collector is directly connected with the screen, turned into a negative pressure state so that no dust out, material above sieve through the plate chain elevator back to the crusher cycle broken, the finished product through the plate chain elevator into the fine powder separator.
4. After the material enters the fine powder separator, the diversion plate throws the material down in the form of gravity parabolic falling, so that the material is fully dispersed falling; Under the action of the wind speed of the induced draft fan, the fine powder is separated, and the amount of air can be adjusted according to the thickness of the fine powder and the amount of powder. The dust is discharged from the top outlet of the powder separator under the action of the induced draft fan, and is stored in the tank after the separation of the air powder through the pulse bag filter.



整套机制砂生产线实景图 Real picture of the whole machine sand production line



特点和优势 Characteristics And Advantages

1. 塔楼式结构，占地少、无开放扬尘点、采用集中式除尘，环境负荷小；
 2. 通过系统优化，工艺流程简洁流畅、运行可靠，同时节约人力成本；
 3. 自动化程度高，操作、维护、安装方便；
 4. 产品质量稳定，原料适应性强，参数调整灵活方便；
 5. 针对干粉砂浆的专项优化，制出的机制砂更适合干粉砂浆的生产，同时可以通过参数的调整制出适合混凝土等行业的机制砂。
 6. 用于机制砂生产所产成品砂石级配合理，细度模数可调，符合国家《建筑用砂》、《建筑用卵石、碎石》标准；
 7. 独特的破碎方式可以生产出颗粒形貌更圆整的机制砂，可显著改善砂浆的和易性，减少外加剂和胶凝材料的用量；
 8. 完善的细粉回收系统有效降低的成品的细粉含量和含泥量，同时本公司能提供多种高附加值的细粉综合利用方案。
1. Tower structure with economic space occupation , without open dust point, adopted with centralized dust removal which have small environmental load;
 2. Through system optimization, the process flow is simple and smooth, the operation is reliable, and the labor cost is saved;
 3. High degree of automation, easy operation, maintenance and installation;
 4. Stable product quality, strong adaptability of raw materials, flexible and convenient parameter adjustment;
 5. According to the special optimization of dry mortar, the mechanical sand produced is more suitable for the production of dry mortar, and the mechanical sand suitable for concrete and other industries can be produced by adjusting the parameters.
 6. The finished sand and stone used for mechanical sand production are rationally graded and the fineness module is adjustable, in line with the national standards of "Construction sand" and "Construction pebble and gravel";
 7. The unique crushing method can produce the machine-made sand with more rounded particle morphology, which can significantly improve the workability of mortar and reduce the amount of admixture and cementitious material;
 8. The perfect fine powder recovery system can effectively reduce the fine powder content and mud content of finished products. At the same time, the company can provide a variety of high value-added fine powder comprehensive utilization programs.



鄂式破碎机 Jaw crusher

工作原理 Operating principle

1. 鄂式破碎机主要由机架、动颚、偏心轴、颚板、调整斜铁等零件组成。工作时电动机通过三角带经皮带轮驱动偏心轴，使动颚按照一定的轨迹进行运动，进入破碎腔内的物料在两颚板之间受压碎、劈裂和弯曲作用而被破碎，经破碎后的物料在自身重量的作用下由排料口排出。

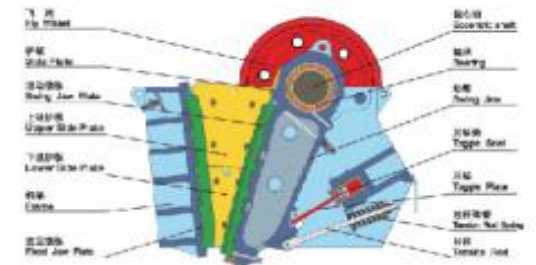
1. Jaw crusher is mainly composed of frame, moving jaw, eccentric shaft, jaw plate, adjust inclined iron and other parts. When working, the motor drives the eccentric shaft by the belt pulley through the triangle belt, so that the moving jaw moves according to a certain track. The material entering the crushing chamber is crushed, split and bent between the two jaw plates, and the crushed material is discharged from the discharge port under the action of its own weight.

性能特点 Performance feature

1. 重型化结构设计，适用各类岩石矿物的破碎。
2. 合理优化运动学参数及腔型设计，使破碎效率更高，产量更大。
3. 楔块式排料调整结构，实现无极调整，简便快捷。
4. 采用大规格轴承，承载能力大,使用安全可靠。
5. 大倾角肘板设计，使腔型下部冲程更大，产量更高。
6. 主机与电机一体化安装结构，基础处理简单。
7. 颚板可以根据破碎物料的不同选择不同的牙型，使破碎效果更好。

1. Jaw crusher is mainly composed of frame, moving jaw, eccentric shaft, jaw plate, adjust inclined iron and other parts. When working, the motor drives the eccentric shaft by the triangle belt through the belt wheel, so that the moving jaw moves according to a certain track. The material entering the crushing chamber will be crushed, split and bent between the two jaw plates, and finally broken. The crushed material is discharged from the discharge port under the action of its own weight.

1. Heavy structure design, suitable for all kinds of rock and mineral crushing.
2. Reasonable optimization of kinematics parameters and cavity design carries out higher crushing efficiency, larger output.
- 3.
4. Wedge type discharge adjustment structure, to achieve non-pole adjustment, simple and fast.
5. Large size bearing with large bearing capacity, safe and reliable use be realized.
6. Large Angle bracket design, so that the lower stroke of the cavity is larger with higher output.
7. Integrated installation structure of main engine and motor, which is simple and basic treatment.
8. Jaw plate can choose different tooth shapes according to different crushing materials, so that the crushing effect is better.





技术参数 Technical specification

规格型号 Specifications and models	进料口尺寸 (mm) Way-in size(mm)	最大进料粒度 (mm) Max Feed Size(mm)	排料口尺寸 (mm)/处理能力 (t/h) Discharge orifice size(mm)/handling capacity(t/h)															功率 (kw) Power(kw)	
			40	50	60	70	80	90	100	125	150	175	200	225	250	275	300		
			JC60	600*400	340	25	35	45	60	75	90	100							
JC75	760*500	425		60	75	95	110	130	145	190								55	
JC90	910*630	530			105	125	145	165	185	235	285	335						90	
JC110	1100*850	720				180	200	220	245	300	350	400	460					110	
JC125	1250*950	810							270	325	385	445	500	560	620			160	
JC140	1400*1070	910								350	225	490	555	625	690	725		200	
JC160	1600*1200	1020									490	560	635	710	780	855	930	250	
JC210	2100*1600	1360										640	730	825	920	1010	1105	1200	400
													800	900	1000	1100	1200	1300	400
													880	1005	1125	1125	1375	1500	400



破碎系统 The broken system



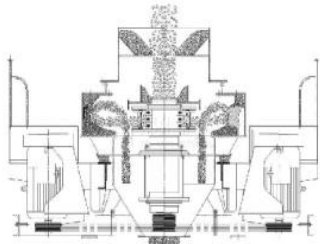
工作原理 Operating principle

物料由皮带机进入破碎机, 再进入高速旋转的叶轮中, 在叶轮内被迅速加速, 其加速度可达数百倍重力加速度, 然后以 60-80 米/秒的速度从叶轮均布的流道内抛射出去, 与破碎腔内形成的物料或砧板撞击、研磨, 将物料加速后获得动能转化为破碎或者整形物料所需要的能量, 在破碎腔内循环多次的物料在周围气体涡流的作用下经过多次破碎整形, 从而实现物料连续破碎整形, 被破碎的物料由下部排料口排出。

根据物料的进料方式分为全中心进料和中心进料伴随瀑布进料; 根据物料的抗压强度、磨蚀性, 破碎形式可分为“石打石”和“石打铁”, 所以破碎机的工作形式可分为四种: 中心进料伴随瀑布进料“石打石”和“石打铁”, 完全中心进料“石打石”和“石打铁”。

The material from the belt machine into the crusher, and then into the high-speed rotating impeller which is rapidly accelerated, the acceleration can reach hundreds of times the acceleration of gravity. Then, at a speed of 60-80 m/s, it is thrown out from the evenly distributed flow channel of the impeller, and impacts with the material or cutting board formed in the crushing chamber, and consultations. The material is accelerated to obtain kinetic energy into the crushing or shaping material required energy, in the crushing chamber of the material circulation for many times under the action of the surrounding gas vortex after multiple crushing shaping, so as to achieve the continuous crushing shaping of the material, the broken material is discharged from the lower discharge port.

According to the feeding mode of materials, it is divided into central feeding and central feeding accompanied by waterfall feeding; According to the compressive strength and abrasion of the material, the crushing form can be divided into "stone to stone" and "stone to iron", so the working form of crusher can be divided into four kinds: central feeding accompanied by waterfall feeding "stone to stone" and "stone to iron", completely central feeding "stone to stone" and "stone to iron".



工作原理图 Operating principle

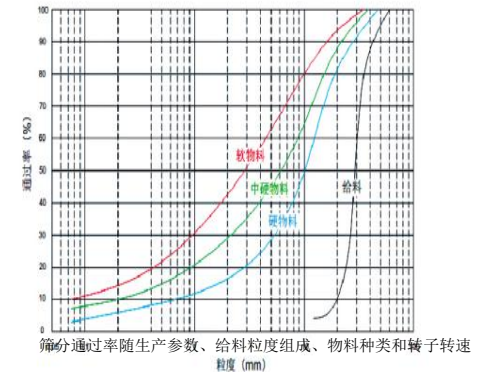


5X 高效离心冲击式破碎机
High efficiency centrifugal impact crusher

性能特点 Performance feature

1. 叶轮采用全新四口设计, 提高物料通过量及物料之间撞击概率, 相较于传统三叶轮同种物料的破碎效率提高 10-20%。
2. 对耐磨件材质及工艺进行调整, 相较于以往设备在破碎同种物料条件下叶轮部分耐磨件使用寿命提升 30~200% 不等。
3. 与叶轮的联结方式改为锥面连接, 维修方便、快捷。
4. 可以实现石打石、石打铁两种破碎模式的快速转换。
5. 优化机体下部结构, 将原设计的“井”字结构, 改为“十”字结构, 防止物料堵塞机体下部, 造成零件异常磨损。

1. The impeller adopts a new four-port design to improve the amount of material passing and the probability of collision between materials. Compared with the traditional three-impeller, the crushing efficiency of the same material is increased by 10-20%.
2. Adjust the material and process of the wear-resistant parts. Compared with the previous equipment, the service life of the wear-resistant parts of the impeller can be increased by 30~200% under the condition of crushing the same material.
3. The connection mode with impeller is changed to conical connection, which is convenient and fast maintenance.
4. It can realize the rapid conversion of two crushing modes of "stone to stone" and "stone to iron".
5. Optimize the body's substructure, change the original design of "#" structure to "+" structure, to prevent materials from blocking the body's lower part which may causing abnormal wear of parts.



筛分通过率随生产参数、给料粒度组成、物料种类和转子转速的不同而变化。由于材料的差异较大, 在相同入料粒度组成和转子转速的情况下, 产品粒度可能有所变化。

Screening pass rate varies with production parameters, feed size composition, material type and rotor speed. Due to the large difference of materials, the particle size of products may change under the condition of the same particle size composition and rotor speed.



技术参数 Technical specification

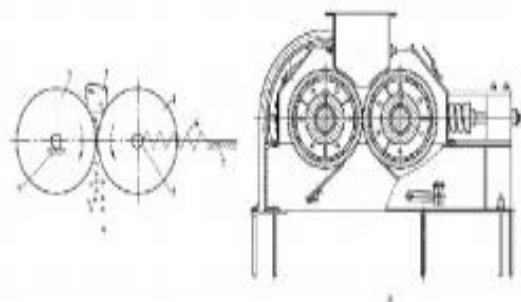
型号 Model		5*7615	5*8522	5*9532	5*1145
处理能力 (t/h) Handling capacity	瀑落与中心进料	150-280	240-380	350-540	500-640
	全中心进料/Feed at center	70-140	120-200	180-280	250-360
最佳入料尺寸 (mm) Best feeding size (mm)	软料 Soft material	35	40	45	50
	硬料/Hard material	30	35	40	45
转速 (r/min) /Rotate speed (r/min)		1710-1900	1530-1700	1380-1550	1200-1390
双电机功率 (kw) double motor power (kw:)		110-150	180-220	260-320	400-440
外形尺寸 长*宽*高 (mm) /Size length*width*height (mm)		4100*2330*2300	4141*2500*2700	4560*2600*2900	5100*2790*3320
重量 (t) /Weight (t)		12.1	14.8	18.6	27.5
电源 Power		380V, 50			
稀油润滑站 Thin oil lubrication station	双油泵电机功率/Double oil pump motor power	2*0.25kw			
	安全保护 Safeguard	双油泵互补供油; 无油流自动停机; 水冷降温; 冬季电机加热启动 Double pump complementary oil supply; Automatic stop without oil flow; water cooling; in winter starting with motor heating			
	油箱加热功率/Fuel tank heating power	2kw			
	外形尺寸 长*宽*高/Size length*width*height (mm)	820*520*1270			

注: 该表所显示的产量将随进料的物理特征变量的改变而有所变化, 通过量是按照物料密度为 1.6t/m³ 计算的

Note: The output shown in this table will vary with the physical characteristics of the feed. The pass is calculated according to the material density of 1.6t/m³



对辊整形机 Roll shaping machine



工作原理 Operating principle

对辊破碎机是利用两组单独传动的棍轴,相对旋转产生的挤轧和磨剪力来破碎物料。物料经给料口落入两棍之间,经对混挤压破碎之后成品自然落下,当遇到过硬或者不可破碎的物料时,轮子可凭液压缸或弹簧的作用自动退让,使双棍之间的间隙增大,过硬或不可破碎的物料自然落下,以此来保证机器不被损坏,相向转动的两个棍子有一定的间隙,通过改变间隙,就可以控制产品的最大排料粒度,对辊破碎机是利用一对相向转到的圆棍,而四棍破碎机则是利用两对相向转动的圆棍进行破碎作业,对辊破碎机采用三角带或万向节联轴器进行传动和调节两棍之间的间隙。

Roll crusher is using of two groups of separate drive shaft, the relative rotation of extrusion and grinding shear force to break the material. The material falls between the two sticks through the feeding mouth, and the finished product falls down naturally after the mixing and crushing. When encountering hard or unbreakable materials, the wheel can automatically yield by the action of hydraulic cylinder or spring, so that the gap between the double mixture increases, and the hard or unbreakable materials fall naturally to ensure that the machine is not damaged. There is a certain gap between the two sticks rotating towards each other. By changing the gap, the maximum discharging size of the product can be controlled. The roll crusher uses a pair of round sticks that turn to the opposite direction, while the four-stick crusher uses two pairs of round sticks that turn to the opposite direction to carry on the crushing operation. The roll crusher uses a triangle belt or universal joint coupling to drive and adjust the gap between the two silver.

规格型号 Specifications and models	进料粒度 (mm) /Feed size(mm)	出料粒度 (mm) / Discharge size(mm)	生产能力 (t/h) Production capacity	电机功率 (kw) Motor power (kw)	重量 (t) Weight (t)	外形尺寸长宽高 (mm) Size length*width*height (mm)
2PG400*250	<35	≤2-8	2-10	2*5.5	1.3	2150*980*800
2PG400*400	<35	≤2-8	5-12	2*7.5	2.3	2360*1100*800
2PG610*400	<65	≤2-20	5-20	2*15	3.9	3510*1420*1030
2PG750*500	<75	≤2-25	10-40	2*18.5	9.5	4210*1630*1260
2PG800*600	<80	≤2-25	12-45	2*22	10.8	4505*1780*1320
2PG1000*800	<100	≤3-30	20-65	2*30	14.9	5310*2175*1595
2PG1200*800	<120	≤3-35	35-80	2*37	25.5	6290*2270*1870
2PG1200*1000	<120	≤3-35	40-90	2*45	30	6290*2470*1870
2PG1500*800	<130	≤3-45	50-120	2*75	33.7	7460*2410*2290
2PG1600*1000	<150	≤3-50	60-140	2*90	41.2	8220*2680*2475

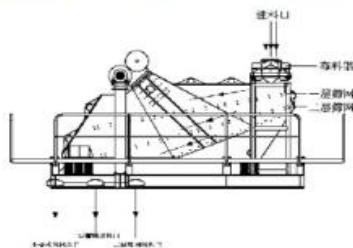
性能特征 Performance characteristic

1. 是所有制砂、细碎设备里面,易损件成本最低的(辊皮带至少使用半年以上)。
2. 维修方便、简单,故障率极低。
3. 噪音小,污染小,动力小。
4. 应用广泛,价格低。

1. The lowest cost of wearing parts in all Sand making and fine crushing equipment (belt should be used for at least half a year)
2. Easy and simple maintenance with low failure rate.
3. Less noise and pollution and power.
4. Wide range of applications and low price



筛分系统 Sieving system



工作原理图 Operating principle



YZS圆振筛
the YZS circular vibrating

工作原理 Operating principle

筛分系统采用圆振筛,该分选设备采用椭圆运行轨迹进行物料的精细分级,该筛机主要有筛箱、筛网、振动器、减振弹簧装置、底架,驱动组件等组成。采用稀油润滑激振器(内置偏心块)实现强劲的振源方式,振动器安装在筛箱侧板上,并由电动机通过三角皮带带动旋转,产生离心力,迫使筛箱进行椭圆振动。筛机侧板采用优质钢板制作而成,侧板与横梁、激振器底座采用高强度螺栓或环槽铆钉连接,大幅减少焊接应力。振动器安装在筛箱侧板上,一并由电动机通过联轴器带动旋转,当振动加速度大于重力加速度时物料便脱离筛面进行跳跃和滑行从而进行筛分作业。整套筛子采用密闭式结构,无粉尘扬起。

The screening system uses circular vibrating screen, the sorting equipment uses elliptical running path for fine classification of materials. The screen machine is mainly composed of screen box, screen cloth, vibrator, damping spring device, bottom frame, driving components and so on. Besides, thin oil lubricated vibrator (built-in eccentric block) is adopted to achieve a strong vibration source mode. The vibrator is installed on the side plate of the screen box, and is driven to rotate by the motor through the triangle belt, which produces centrifugal force driving the screen box to carry out elliptical vibration. The side plate of the screen machine is made of high quality steel plate. The side plate is connected with the beam and the bottom seat of the vibrator by high strength bolt or ring groove rivets, which greatly reduces the welding stress. The vibrator is installed on the side plate of the screen box, and is driven by the motor through the coupling to rotate. When the vibration acceleration is greater than the gravity acceleration, the material will jump and slide out of the screen surface so as to carry out screening operations. The whole screen adopts closed structure, no dust out.

性能特点 Performance feature

1. 激振器采用稀油润滑油浴结构, 激振力强, 轴承经久耐用。Vibration exciter adopting thin oil bath structure, which have strong vibration force and durable bearing
2. 筛子横梁与筛箱采用高强度螺栓联结, 无焊接, 抗疲劳性大幅提高; The crossbeam of the screen and the box are connected by high strength bolts without welding, so that fatigue resistance is greatly improved.
3. 筛机结构简单, 维修方便快捷; Sieve machine structure is simple, convenient and fast maintenance
4. 采用斯太尔联轴器万向联接, 运转平稳, 寿命长; Steyr coupling was used for universal connection which is smooth operated and having long service life
5. 弹簧采用钢制弹簧结实耐用, 配备减震垫, 有效减低了设备噪音。The spring is made of steel spring and is durable. It is equipped with shock cushion to effectively reduce the noise of the equipment.

技术参数 Technical specification

型号 Model	最大粒度 biggest size	孔径 Diameter	振幅 Swing	功率 Power	筛分粒度 Sieving accuracy
YZS1540	0-25	1-8	8-10	7.5	>90%
YZS1840				11	
YZS2050				18.5	
YZS2060				18.5	



细粉分离系统 Fine powder separation system



工作原理 Operating principle

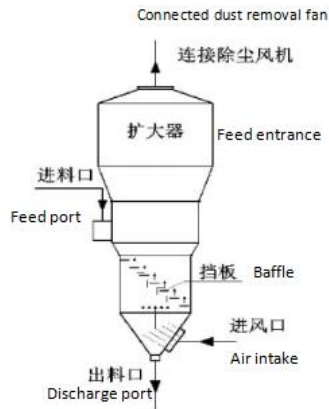
成品砂经提升机送入选粉机，成品砂在选粉机中以抛物线的形式下落，在重力与引风机风速的作用下砂与粉尘分离开，并在选粉机上部的扩大体中形成砂与粉尘的充分分离，下落的成品砂在导流板的作用下进行二次粉尘分离，最终粉尘在引风机的作用下通过选粉机的顶部出口排出，然后通过箱式脉冲布袋除尘器进行气粉分离，选粉后的成品砂通过选粉机底部的出料口排出。

The finished sand is fed into the powder separator by the hoist, The finished sand falls in the form of parabola in the classifier, and the sand and dust are separated under the action of gravity and induced draft fan wind speed, and the full separation of sand and dust is formed in the expanded body at the upper part of the classifier. The falling finished sand is separated by secondary dust under the action of the guide plate, and the final dust is discharged through the top outlet of the powder separator under the action of the induced draft fan, and then separated by the box type pulse bag filter. The finished sand is discharged at the bottom of the powder separator.

性能特点 Performance feature

1. 静态分离,无运动部件,设备运行率高,具有节能、占地少、节约维护成本,分选效率高等优点;
2. 可有效解决硬度较小物料破碎后粉料多的弊病,同时可灵活调节细粉量和细度,便于细粉的综合利用;
3. 使用该系统生产的机制砂在细度模数和级配的调节和稳定上具有其他系统无法比拟的优势;
4. 便于与机制砂设备组成集中除尘系统,收集所有扬尘点的粉尘,工艺更简洁、投资更省、几乎不增加额外的动力消耗;
5. 结构简单、造价低廉、噪声低、环境更洁净、操作、维护、安装方便;

1. Static separation, no moving parts, high equipment operation rate, It has the advantages of energy saving, economic space occupation. Save maintenance cost, high sorting efficiency.
2. It can effectively solve the disadvantage of more powder after crushing materials with smaller hardness. At the same time, it can flexibly adjust the amount and fineness of fine powder comprehensive utilization of fine powder.
3. The machine-made sand produced by this system has incomparable advantages in fineness modulus and gradation adjustment and stability;
4. It is convenient to form a centralized dust removal system with mechanical sand equipment to collect dust from all points.
5. The process is simpler and the investment is less, as well as the extra power consumption is almost not increased.



处理量 T / Handling capacity T	风量 m ³ /h / air flow m ³ /h	风机功率 kw / Power of fan kw
40	27000	30
60	40000	45
80	54000	75
100	66000	90



提升系统 Elevator system



工作原理 Operating principle

提升机是用来提升各种散状物料，是目前国内较为先进的一种垂直提升设备，可被广泛用来提升各种散状物料。

板链式提升机由运动部件回绕在上部驱动链轮和下部的改向链轮上，在驱动装置作用下，驱动链轮带动牵引构件和料斗作回转性的循环运动，物料由下部进料口喂入各料斗，当物料被提升至上链轮时，在重力和离心力的作用下由出料口卸出。

Elevator is used to lift all kinds of loose materials which is a more advanced domestic vertical lifting equipment and can be widely used to lift all kinds of loose materials.

WTJ is wound by moving parts on the upper drive sprocket and the lower sprocket, Under the action of the driving device, the driving sprocket drives the traction component and the hopper for rotary circular movement, the material is fed into the hopper from the lower feed port, When the material is lifted to the upper sprocket, it is discharged from the outlet under the action of gravity and centrifugal force.

性能特点 Performance feature

1. 对物料的种类、特性及块度要求少，不仅提升一般粉状，粒状和块状物料，而且可提升磨琢性状的物料。物料温度可达 250℃。
2. 链速低提升量大，无回料和挖料现象，所耗功率是链提升机的 70%。
3. 输送能力大，提升量范围 15—800m³/n。
4. 输送链采用高强度耐磨链条，延长了链条和链斗的使用寿命，正常使用下，输送链使用寿命超过 5 年。
5. 密封性好，环境污染少。先进的设计原理，保证了整机的可靠性，无故障时间超过 3 万小时。
6. 操作，维护，维修方便，易损件少。

1. Less requirements on the type, characteristics and lumpiness of materials, Not only can improve the general powder, granular and lump materials, but also can improve the grinding and cutting properties of materials. Material temperature will up to 250℃.
2. Low speed and large lifting capacity, no material return and digging, The power consumption is 70% of the WTJ.
3. Large conveying capacity, lifting capacity range: 15-800m³ / n.
4. Conveying chain adopts high-strength wear-resisting chain, which prolongs the service life of the chain and the chain bucket. Normally, the service life of the conveyor chain is over 5 years.
5. Good sealing performance, less environmental pollution, The advanced design principle ensures the reliability of the whole machine and the trouble-free time exceeds 30,000 hours.



WTJ of NE



技术参数 Technical specification

规格型号 specifications and models	输送量 (m ³ /h) Delivery value	斗容 (L) Bucket capacity	斗距 (mm) Bucket pitch	斗速 (m/s) Bucket speed	物料最大块度 (mm) Maximum bulk of material	运行部件重量 (kg/m) Operating component weight
NE15	15	2.5	203.2	0.5	50	27.5
NE30	35	7.8	304.8	0.5	65	35
NE50	60	15.7	304.8	0.5	65	64
NE100	110	35.0	400	0.5	95	89
NE150	170	52.2	400	0.5	95	112.3
NE200	220	84.6	500	0.5	125	134
NE300	320	127.5	500	0.5	125	188
NE400	400	182.6	600	0.5	145	205
NE500	500	260.9	700	0.5	165	223
NE600	600	330.2	700	0.5	165	274
NE800	800	501.8	800	0.5	195	313



粉体回收系统 Powder recovery system



工作原理 Operating principle

粉尘回收系统由斗提机、储罐及散装机组成，整套设备采用中央集中除尘，除存的粉尘可回收集中处理，制砂和筛分在生产过程中产生的大量细粉，通过细粉分离系统回收集中处理，细粉分离系统对细粉量比例的大小，可通过风量调节阀来控制；中央除尘和破碎、筛分生产时产生的粉尘回收储存后可通过散装外卖。

散装机采用内外双层套管结构，散装头和内部料套管均为金属结构且耐磨损，外部软管采用涤纶帆布，耐折叠且使用寿命长，升降驱动平稳，升降时散装头无飘动或歪斜现象，工作全过程处于封闭状态，配有除尘器。

Dust recovery system is composed of bucket lifting machine, storage tank and bulk unit, The whole equipment adopts central centralized dust removal method, the dust can be recycled for centralized treatment, sand making and screening a large number of fine powder produced in the production process. Through the fine powder separation system recovery centralized processing, and fine powder separation system to the size of the proportion of fine powder can be controlled by the air volume control valve; Central dust removal, crushing and screening production generated dust can be sold in bulk after storage.

Bulk machine adopts internal and external double casing structure, bulk head and internal material casing are metal structure and wear resistance. The outer hose is made of polyester canvas, which is foldable and has a long service life. The lifting drive is stable, the bulk head does not drift or skew during the lifting, the whole working process is in a closed state and equipped with dust collector.

性能特点 Performance feature

1. 运行可靠,易于达到无尘环保、智能化装车装船。
 2. 模块化结构及系列化的产品，可满足客户绝大部分散装需求。
 3. 整体化装配，细致的出厂前调试,将客户现场安装调试工作量降到最低。
 4. 可根据客户散装工况与需要，免费提供效果最佳、成本合理的无忧散装及除尘方案。
1. Reliable operation, easy to achieve dust-free environmental protection, intelligent loading effect.
 2. Modular structure and serialized products, It can meet most bulk requirements of customers.
 3. Integrated assembly, Meticulous pre-delivery debugging, Minimize the installation and commissioning workload of customers.
 4. According to the bulk conditions and needs of customers, free of charge to provide the best effect, reasonable cost of worry free bulk and dust removal program can be realized.



加湿系统 Humidification system



LCS加湿搅拌机

技术参数 Technical specification

型号 Model	处理量 (t/h) /Handling capacity(t/h)	叶片直径 (mm) /Blade Diameter(mm)	叶片转速 (r/min) /Blade speed(r/min)	功率 (kw) / Power
LCS10	10	400	37.5	5.5
LCS20	20	400	47.6	7.5
LCS40	40	500	47.6	11
LCS60	60	600	47.6	15

工作原理 Operating principle

该设备外形采用 U 型设计，筒体内采用双轴浆叶对流设计，每片浆叶角度值和距离值经过合理计算；浆叶旋转时物料向一个斜角度抛向空间流动层，双向物料产生对流运动，相互落入对方区域内，使物料既能充分达到分散和混合效果，又能使物料达到单向运动的效果。

The device adopts u-shaped design and dual axial blade convection design in the cylinder body, The Angle value and distance value of each blade are reasonably calculated. When the blade rotates, the material is thrown to the space flow layer at an oblique Angle, Two-way material produces convection motion, Each falling into the other area, so that the material can not only fully achieve the effect of dispersion and mixing, but also make the material to achieve the effect of one-way movement.

性能特点 Performance feature

1. 连续进料、连续出料；
 2. 组合式耐磨浆叶降低维护成本；
 3. 分散效果好；
 4. 采用硬齿面减速机，即可提高传动效率，又维护方便；
 5. 密封操作，无粉尘扬起。
1. Continuous feeding and discharging
 2. Combined wear-resistant blades reduce maintenance costs
 3. Good dispersion
 4. Hard tooth surface reducer not only can improve transmission efficiency but also will convenience the maintenance;
 5. Sealed operation, no dust out.



除尘系统 Dust pelletizing system

工作原理 Operating principle

除尘系统采用箱式脉冲布袋除尘器，工作时，含尘气体由进风道进入灰斗，粗尘粒直接落入灰斗底部，细尘粒随气流转折向上进入中、下箱体，粉尘积附在滤袋外表面，过滤后的气体进入上箱体至净气集气管-排风道，经排风机排至大气。清灰过程是先切断该室的净气出口风道，使该室的布袋处于无气流通过的状态(分室停风清灰)。然后开启脉冲阀用压缩空气进行脉冲喷吹清灰，切断阀关闭时间足以保证在喷吹后从滤袋上剥离的粉尘沉降至灰斗，避免了粉尘在脱离滤袋表面后又随气流附集到相邻滤袋表面的现象，使滤袋清灰彻底，并由可编程控制器对排气阀、脉冲阀及卸灰阀等进行全自动控制。

Dust removal system adopts box type pulse bag dust collector. During operating, dusty gas into the hopper from the air duct, coarse dust particles directly into the hopper bottom, fine dust particles turning upward into the middle and lower box with the airflow. The cleaning process is to cut off the net gas outlet air duct of the room first, so that the cloth bag of the room is in a state of no air flow (air cleaning in separate rooms). Then open the pulse valve for pulse blowing with compressed air, and the closing time of the cut-off valve is enough to ensure that the dust removed from the filter bag settles to the ash hopper after spraying. It avoids the dust attached to the surface of adjacent filter bag with air flow after separating from the filter bag surface, so that the filter bag is completely cleaned. And the exhaust valve, pulse valve and ash discharge valve are fully controlled by programmable controller.

性能特点 Performance feature

1. 清灰能力强，除尘效率高，排放浓度低，漏风率小，能耗少，钢耗少，占地面积少，运行稳定可靠，经济效益好。
2. 清灰周期延长，降低了清灰能耗，压气耗量可大为降低。
3. 滤袋袋口采用弹性涨圈，密封性能好，牢固可靠。滤袋龙骨采用多角形，减少了袋与龙骨的磨擦，延长了袋的寿命，又便于卸袋。

4. 箱体采用气密性设计，密封性好，检查门用优良的密封材料，制作过程中以煤油检漏，漏风率很低。

1. Strong ash cleaning capacity, high dust removal efficiency, low emission concentration. Small air leakage rate, less energy consumption, less steel consumption, economic space consumption, Stable and reliable operation, good economic benefits.

2. The dust cleaning cycle is prolonged, and dust cleaning energy consumption is reduced, so that the pressure gas consumption can be greatly reduced.

3. Filter bag mouth adopts elastic ring which has good sealing performance with firm and reliable advantages. Polygonal filter bag that reduced the friction between the bag and the keel, prolong the life of the bag, and easy to unload the bag.

4. Box body adopts air tight design which is good sealed. Inspection door with good sealing materials, production process adopts kerosene leak detection, so that air leakage rate is very low.





技术参数 Technical specification

型号 Model	过滤面积 (m ²) Filter area	滤袋数量 (pcs) Sieving bag quantity	电磁阀 (pcs) magnetic valve (pcs)	引风机功率 (kw) power of draft fan (kw)
MC36	27	36	6	5.5
MC80	60	80	10	11
MC120	90	120	15	15
MC60-4	180	240	20	22
MC60-6	282	360	30	30
MC60-8	395	480	40	45
MC60-10	570	600	50	75
MC60-12	622	720	60	90

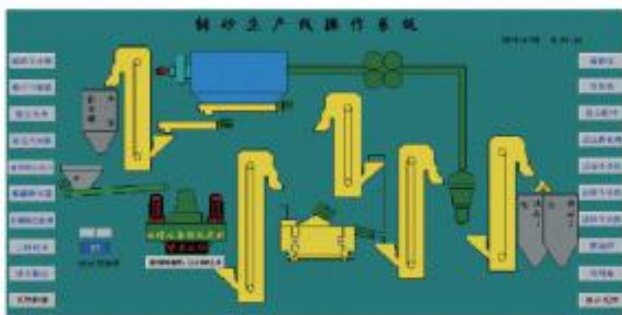
电控系统 Electronic control system



监控同步 Synchronized monitoring

系统采用德国西门子 PLC 和研华工控机等国内外尖端科技产品,工作现场的所有物料料位和所有物料开关阀门均采用现场实时动作监控,并在工控机人机操作界面上同步显示,现场所有物料及机械运动均在人机操作界面上采用动态显示,画面逼真,具有操作简单方便、运行可靠、界面友好等特点。所有阀门的动作和电机均采用程序保护。

The system adopts German Siemens PLC and Advantech industrial computer and other domestic and foreign advanced technology products. All the material level and switch valves are monitored in real time and displayed synchronously on the man-machine operation interface of industrial computer. On-site material and mechanical movement are dynamic display on the man-machine interface, the picture is clear, with the characteristic of simple and convenient, reliable operation, friendly interface and so on. All valve action and motor are protected by program.



实时调整 Adjust while operating

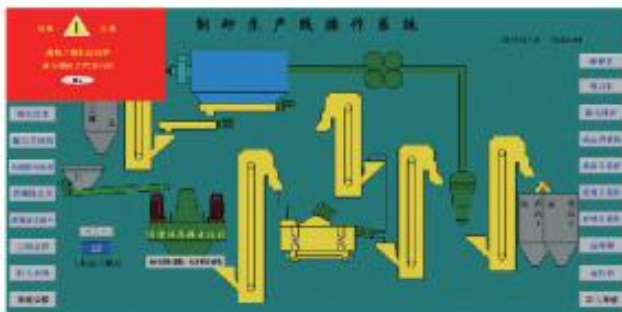
可以设定各种工艺参数，动态调整各项工艺参数，使设备工作于最佳状态。

Can set and adjustment of the process parameters dynamically. Make the equipment work in optimum condition.

生产报表 Production statement

系统将会自动生成报表,自动记录客户的生产状态、物料性状、生产时间，为客户的生产管理及材料进出库提供了直面的数据化资料。

The system will automatically generate reports, record the customer's production status, material properties, production time. Provide direct Digitized data for the customer's production management and material in and out of the warehouse.





客户案例 Customer case



益阳正天60T/h机制砂生产线



青岛三益50T/h机制砂生产线



青岛合筑50T/h机制砂生产线



贵州遵义赛威尔30T/h机制砂生产线



宜春华瑞60T/h机制砂生产线



浙江长兴利群50T/h机制砂生产线



株洲强力90T/h机制砂生产线



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