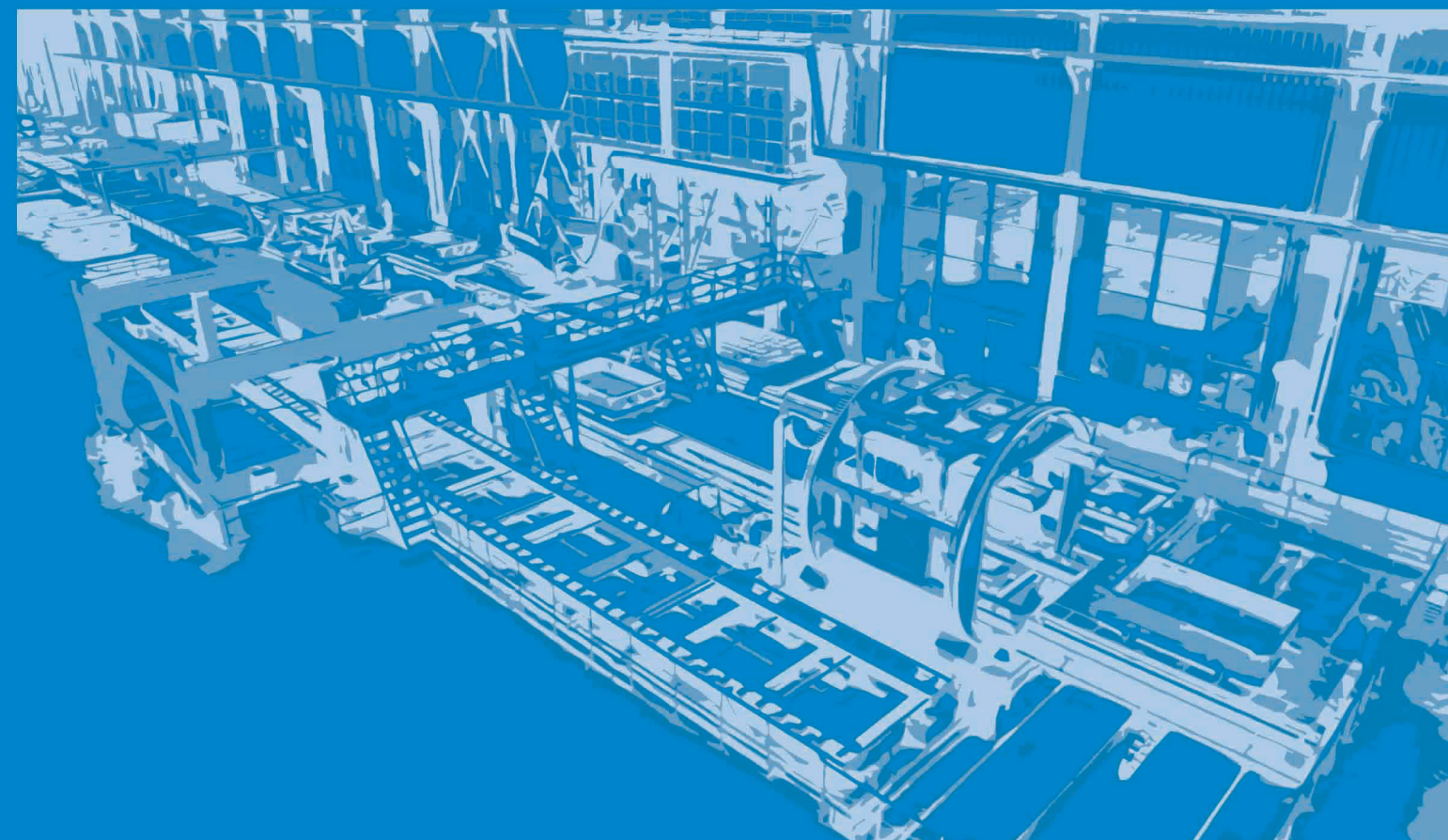


铸造机械设备 FOUNDRY MACHINERY



济南二机床集团有限公司
JIER Machine-Tool Group Co.,Ltd.

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JIER-BCE-2018-01

济南二机床集团有限公司
JIER Machine-Tool Group Co.,Ltd.

公司简介 Profile of Company

■ 中国济南二机床集团有限公司是中国规模最大的重型锻压设备和大型金属切削机床制造企业，国内主要数控机床产业化基地之一，也是当今世界上最大的机械压力机制造公司之一。企业的技术开发实力、装备水平和生产能力、产品品种和技术水平等各方面多年来均位于国内同行业的首位。

■ 济南二机床集团有限公司下属12个专业化公司，企业的技术中心系“国家级技术中心”，具有独立而强大的技术开发实力及制造能力，质量管理及保证体系健全并通过DNV国际质量体系认证。主要产品为各种锻压设备、金属切削机床（数控机床）、自动化成套设备、数控切割设备、铸造机械设备、环保成套设备等六大类，以重型机械压力机为代表的主导产品在国际市场上具有较大的影响力和知名度，产品行销世界50多个国家和地区。

■ 济南二机床集团有限公司铸造与切割设备公司是专门从事铸造设备产品开发、设计、制造与营销的专业化公司。十多年来，在嫁接国外高新技术的基础上，依托集团公司强大的综合实力、独有的机械加工优势，实现了快速发展。其所生产的自硬砂处理设备、混砂设备、自动化造型线、浇铸线、工业炉窑、除尘设备及清理设备等，具有国际最先进的技术、最高的可靠性及最低的使用成本，是同行业内公认品牌产品，处于国内领军地位。产品在机床、冶金、有色金属、新能源、汽车、军工、造船、电机、工程机械等制造行业得到广泛应用，产品和服务深受用户好评。

■ 公司拥有一支强大的技术队伍，具有很高的技术开发能力，可以为用户提供铸造车间的规划改造设计、工艺设计、施工设计、非标设计，以及铸造行业的其它各种技术咨询服务；可提供产品开发设计制造、安装调试以及工艺生产的“交钥匙”工程服务。



■ JIER Machine-Tool Group Co. Ltd., China is the largest-scale heavy-duty forging equipment and large-scale metal-cutting machine manufacturer. It is one of the CNC machine industrialization bases in China and one of the largest mechanical press manufacturers in the world. Its technical R&D ability, equipment level, production capability, product kinds and technical level have been ranked on top in the same industry in China.

■ There are 12 professional companies affiliated to JIER Group. Its technical center is a "State-level Technical Center" which has independent and powerful technical R&D and fabrication ability. The quality management and control system is sound and approved by DNV International Quality Certification System. Main products are of six categories, such as metal-forming equipment, metal cutting machine (CNC machine), press automation system, CNC cutting equipment, foundry machinery, and environment protection equipment etc, among

which the leading product is the heavy-duty mechanical press with greater notability and popularity in the international market. The products have been marketed in more than 50 countries and regions.

■ JIER Foundry & Cutting Equipment Company is a company specialized in R&D, design, manufacturing and marketing of foundry machinery. In the recent 10 years, based on the high-tech in the world, the powerful comprehensive strength and sole machining advantages of JIER Group, its growth is sustained and stabilized. Main products such as no-bake sand processing equipment, sand mixer, auto molding line, pouring line, industry furnace, dust-removal and cleaning equipment, which have the most advanced technology in the world, the highest reliability, and the lowest use-cost, the famous brand product accepted in the

same industry, and in the leading position in China. The products have been used extensively in manufacturing industry such as machine, metallurgy, non-ferrous metal, new energy, automobile, war industry, shipbuilding, motor, engineering machinery etc. which products and service have been praised by the customers. ce have been praised by the customers.

■ JIER Foundry & Cutting Equipment Company owns a powerful technology team who has high R&D ability, can provide customers with planning and retrofit design, technological design, construction design, non-standard design in the foundry workshop, and the other technical consultation services in the foundry industry. It can provide product R&D, design, manufacturing, installation and commissioning, and Turnkey Project service for process production.

综合制造实力 Comprehensive Manufacturing Strength



先进的自动焊设备
Advanced automatic welding device



拥有数十台大型、重型数控机床和龙门式加工中心
Tens of large-scale heavy-duty CNC machine tools and gantry machining center



国家级技术中心
State-level technical center



济南二机床集团有限公司生产区一角
Aerial view of JIER Group production area



JIER品牌铸机产品在国际
铸造设备展览会展出
JIER foundry machines
exhibited on International
Foundry Equipment Fair

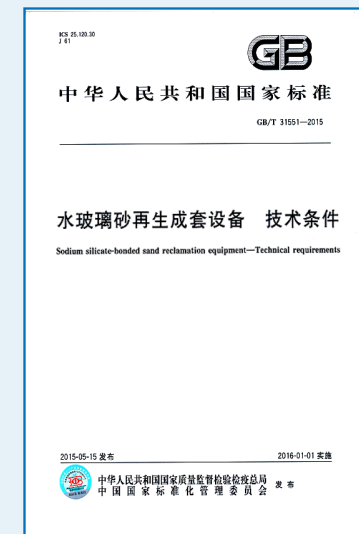
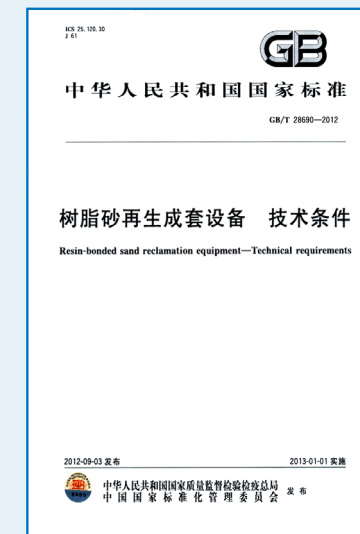
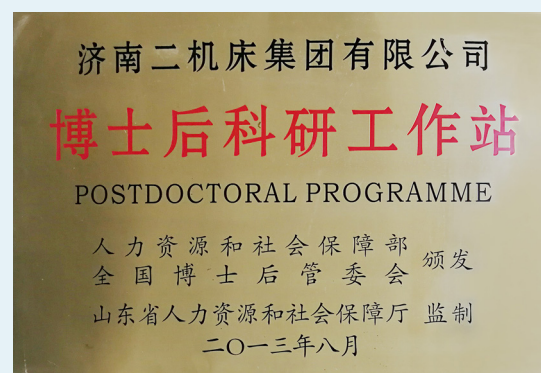
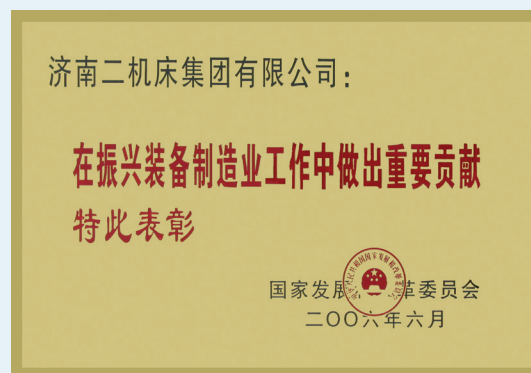


铸造与切割设备公司CAD工作站一角，
各种新产品的开发、应用CAD出图量已
达100%
A corner of CAD work station of Foundry
& Cutting Equipment Company, the
application of CAD in the new product
R&D has been reached 100%.

铸造与切割设备公司的产品装配车间一角
A corner of assembly workshop of
Foundry & Cutting Equipment Company



公司荣誉 Company Honors



济南二机床铸造装备引领行业发展，做为主要起草单位，先后制定了GB/T 28690《树脂砂再生成套设备 技术条件》、GB/T 31551《水玻璃砂再生成套设备 技术条件》两项国家标准。

JIER Group foundry equipment has led the industry development. As main drafting unit, it has formulated two national standards for GB/T 28690 "Resin Sand Reclaimed Equipment Technical Specifications" and GB/T 31551 "Water Glass Sand Reclamation Equipment Technical Specifications".



JIER牌铸造机械被认定为山东名牌产品，济南二机床生产实力、质量水平得到官方认可、权威认证。

JIER brand name of foundry machinery have been regarded as the famous product in Shandong province, and the production strength and quality level have been certified and approved by the competent authority.

自硬砂生产典型工艺流程介绍

Typical Process Flow for No-bake Sand Production

根据铸造车间布局、工艺性质及生产纲领要求自硬砂生产工艺流程可以有多种变化，但一般主要由旧砂回收、旧砂破碎再生、旧砂风选调温、砂输送及混砂等组成。

The process flow for no-bake sand production is variable depending on the workshop layout, process characteristics and production requirements, which is mainly made of used sand reclamation, used sand crashing and regeneration, used sand pneumatic pickup and temperature adjustment, sand conveying and mixing, etc.

1、旧砂回收 Used - sand reclamation

旧砂、散落砂通过落砂机落砂后，由输送设备（振动输送、皮带输送、斗式提升机等）输送到砂块料斗储存，其间通过磁选设备去除砂中的金属余料。

The used sand and scattered sand, after being shaken out in a shake-out machine, is transferred by conveyor equipment (vibratory conveyor, belt conveyor, bucket elevator, etc), and stored in sand block bucket. During the process, the metallic remaining in the sand is removed by magnet separation equipment.

2、旧砂破碎再生 Used - sand crashing and reclamation

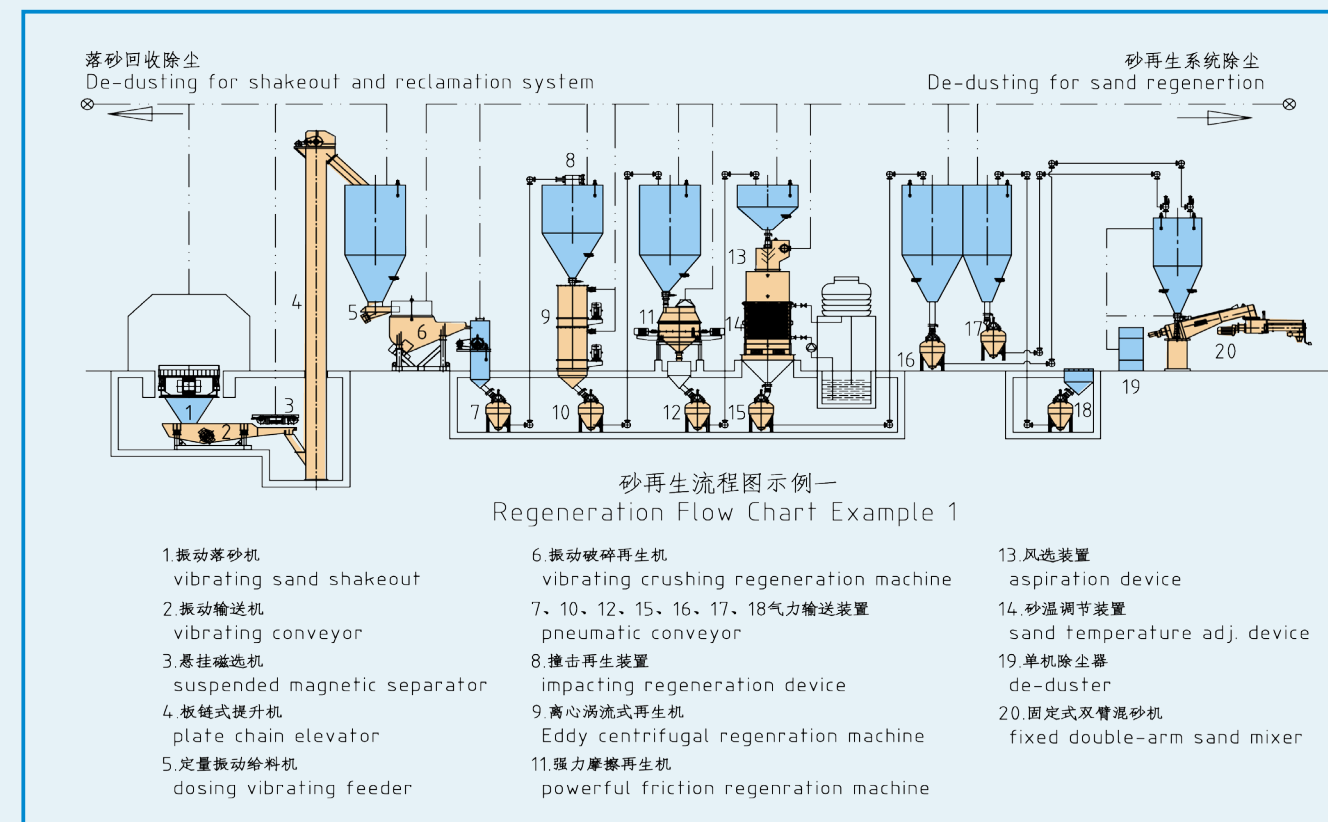
砂块料库中的块砂料由定量振动给料机均匀向破碎机给料，经破碎筛分（有预再生功能）后根据工艺要求的不同在不同的再生设备组合中进行进一步的再生。再生设备的主要形式有撞击再生、离心再生、强力摩擦再生等，可根据工艺要求进行组合以达到要求的脱膜率。经再生的砂料存于热砂库中。

The sand block in the sand storeroom is uniformly fed to the breaker by ration vibratory in-feeder. After being crashed and screened (with pre-regeneration function), and further regeneration in different regeneration combination devices can be available according to different technological requirements. The regeneration types mainly include impact regeneration, centrifugal regeneration and powerful friction regeneration, etc. The required de-filming rate can be obtained by different combinations according to technological requirements. The regenerated sand is stored in a hot sand bin.

3、旧砂的风选及调温 Used - sand pneumatic pickup and temperature adjustment

含有大量微粉的热旧砂由流幕式布料器均匀布料，并经风选器多级风力分选后，微粉被除尘系统带走。去除微粉后的旧砂进入调温器，调温器中的旧砂在调量板的节流作用下均匀缓慢向下移动同时与换热管进行热交换，达到工艺要求的温度后由发送罐送往再生砂库中储存备用，至此，完成旧砂的再生工作。

The hot used sand which contains lots of dust is uniformly spread by a flowing curtain-type sand distributor. The fine dust powder is removed by the dust-removal system after multistep blasting by a pneumatic pickup device. The used sand after dust-removal treatment enters into the temperature adjustment device and then moves downward uniformly and slowly under the flow regulator pan for heat exchange with the heat exchange tubes. After the sand being heated to the required temperature, it is sent to the reclamation sand bin from the conveyor silo to be stored for future use. So far, the regeneration operation of the used sand is done.



4、新砂系统 New sand system

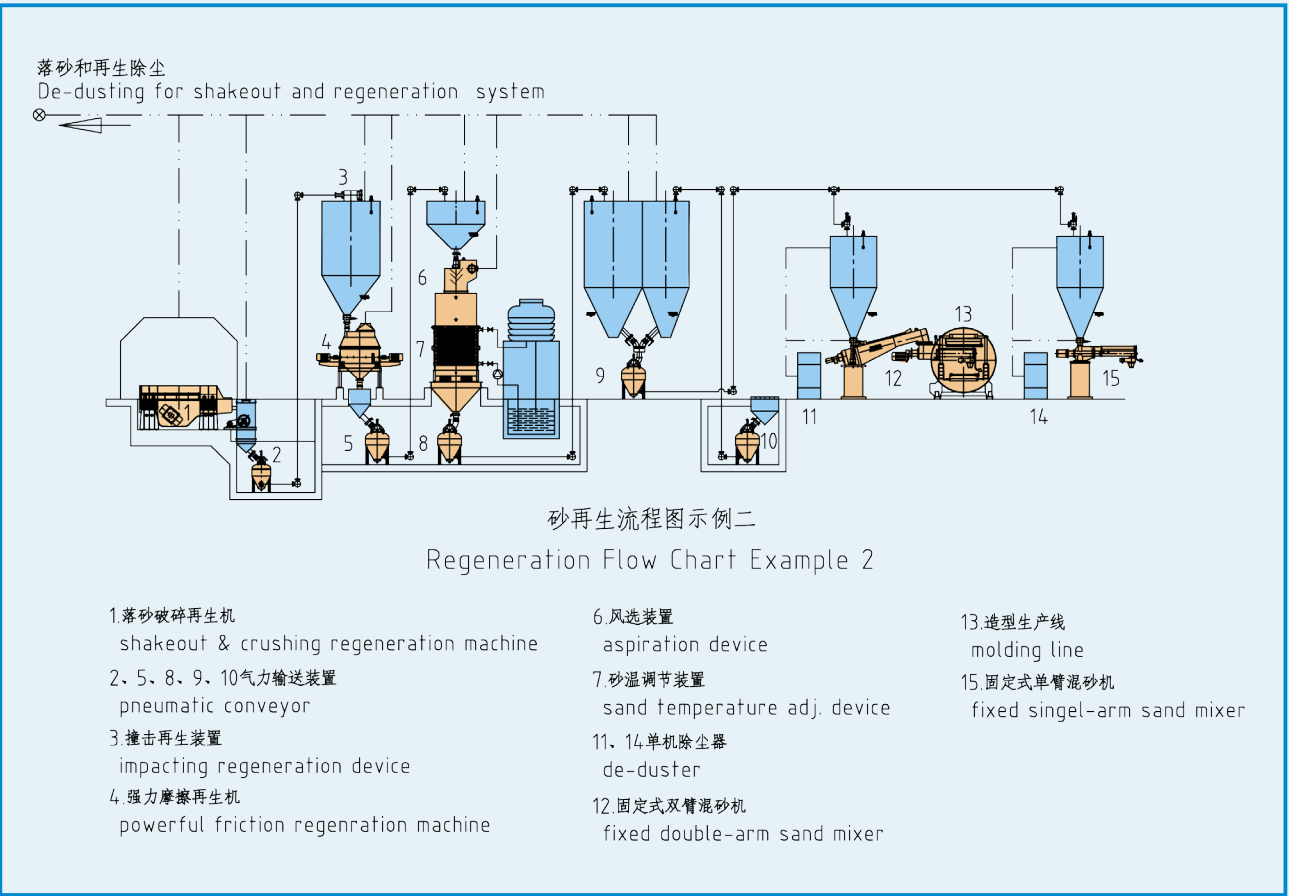
湿新砂或袋装新砂经三回程新砂烘干系统烘干后，由气力输送装置送入新砂料库备用。

The wet new sand and bag packed sand, after being dried through a three-stroke new sand baking system, is fed into the new sand bin by a pneumatic conveyor for future use.

5、新旧砂配送 New/used sand ingredient

根据不同的工艺要求，新旧砂的配送可以预先按比例混合后输送，也可新旧砂分别输送到混砂机上方砂库后再按比例混合。

According to different technological requirements, the new/used sand ingredient can be conveyed after mixing in a prescribed proportion or mixed in a proportion after the new/used sand are conveyed to the sand bin on the top of the mixer.



自硬砂再生系统技术参数
Technical parameters for no-bake sand regeneration system

工艺类型 Process type	生产率 Productivity	再生方式 Reclamation mode	旧砂回用率 Used-sand reclamation rate	灼烧减量 Burn decrement	微粉含量 Powder amount	出砂温度 Sand outlet temperature
呋喃树脂砂 Furan resin sand	3t 5t 10t 15t 20 t 25t 30t	破碎再生+撞击再生 Crashing regeneration + impact regeneration	≥95%	<3.0%	≤0.1%	25~30℃ ±2℃
碱酚醛树脂砂 Alkali hydroxybenzene resin sand		破碎再生+撞击再生+强力摩 擦再生	≥95%	<2.0%		
pep-set树脂砂 pep-set resin sand		Crashing regeneration + impact regeneration + powerful friction regeneration	≥95%	<2.0%		
酯硬化水玻璃砂 Ester solidification water glass sand		破碎再生+加热装置+撞击再 生+强力摩擦再生 Crashing regeneration + heating system + impact regeneration + powerful friction regeneration	≥85%	残余 Residue NaO ₂ < 0.3%		

注：以上参数可根据工艺要求调整。

Note: The above-mentioned parameters can be adjusted according to the process requirements.



J₂L系列落砂及回收设备

J₂L Series shake-out and reclamation equipment

J₂L12惯性振动式落砂机

J₂L12 Inertia vibratory shake - out machine

我公司生产的惯性振动落砂机，落砂效率高，维修工作量少。

The inertia vibratory shake-out machine made by our company has a high shaking out efficiency and less maintenance with the features as below:

■ 振动参数按“远共振区”参数设计，隔振性能好，落砂效果稳定。

The vibratory parameters are designed according to that of “far resonance region”, with good shock absorbing performance and stable shakeout effect.

■ 落砂机的振动参数可根据不同的型砂类型、不同的铸件大小进行调整。

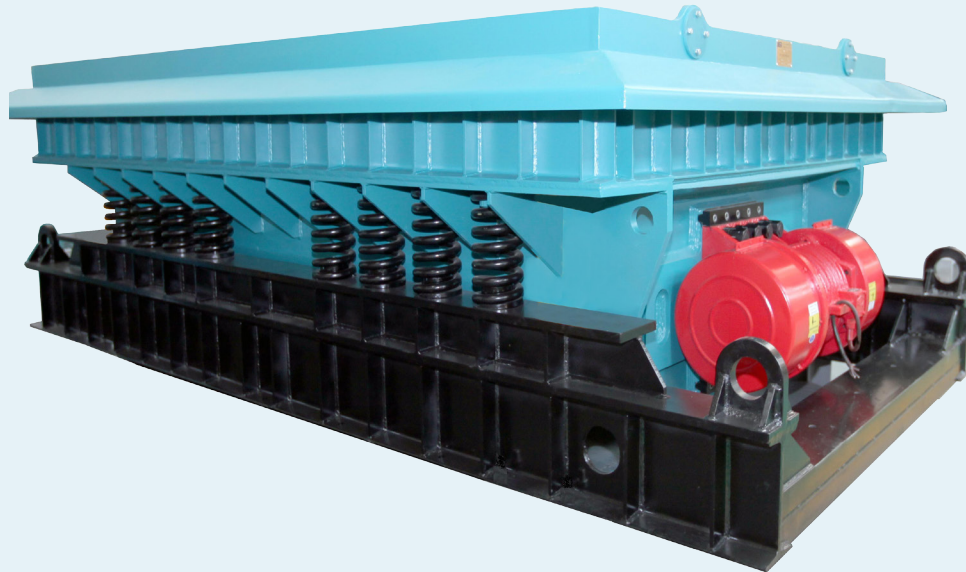
The vibratory parameters of the shake-out machine can be adjusted according to molding sand types and casting sizes.

■ 选用高强度紧固件，振动电机固定采用特殊高可靠性防松措施。

High strength fastener is selected and the vibratory motor is attached by special reliable anti-looseness measurements.

■ 产品机体钢板经预处理后采用数控下料，CO₂气体保护焊接，加工前整体热时效消除应力，从而保证机体强度及加工精度，使用寿命长。

The machine frame steel plate, after pretreatment, is cut by means of NC cutting and protected by CO₂ gas protection welding, and is relieved stress by heat ageing as one-piece before machining to ensure the frame strength and machining accuracy, so that a long service life is available.



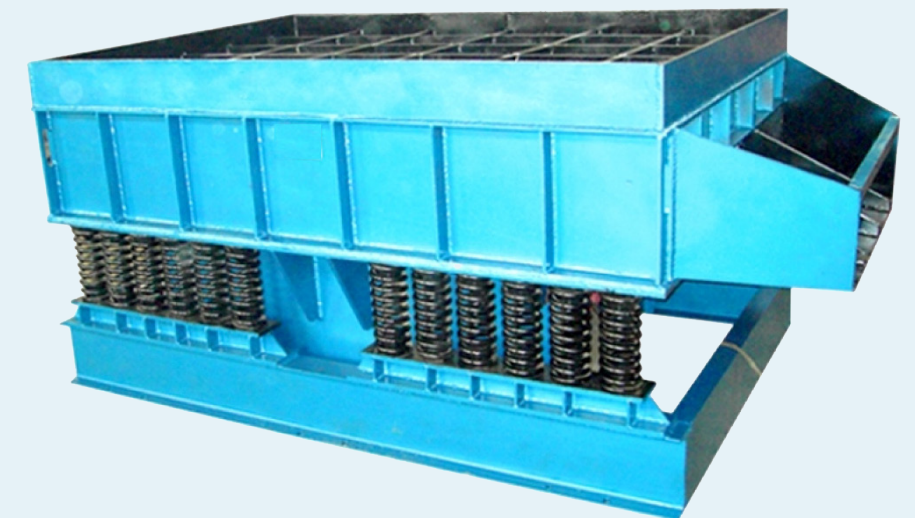
J₂L14系列侧出式振动落砂机

J₂L14 Series vibratory shake - out machine shaking out from side

侧出式落砂机可以将落下的砂子侧向送出，与一般落砂机比较具有布置灵活、地坑深度浅、投资少等优点。

载荷：5-40t。

The machine can transfer the sand out from side. Compared to the conventional shake-out machine, it has the advantages of flexible layout, shallow pit depth, and less investment. The load: 5-40t.



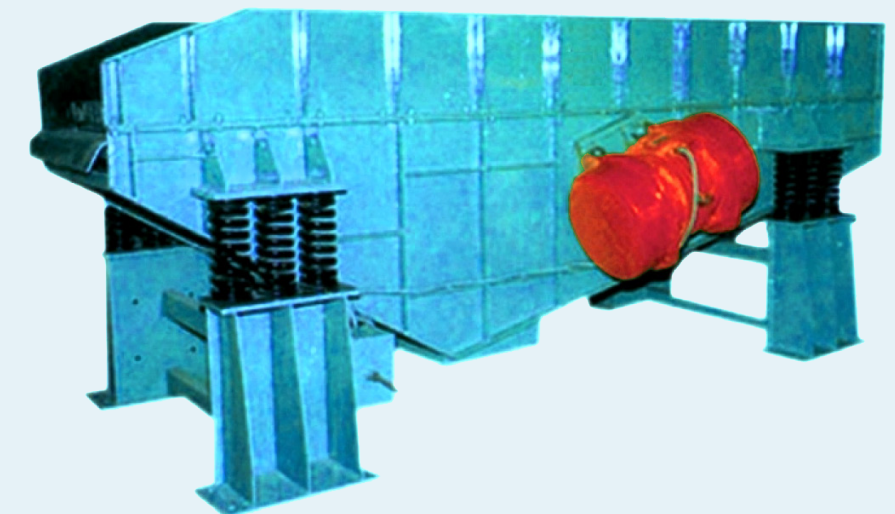
J₂L25系列输送式振动落砂机

J₂L25 Series conveyor vibratory shake - out machine

该类型落砂机在振动落砂的过程中，可以实现铸件的向前输送，适合于小件的落砂。

载荷：1-10t。

The machine, during the vibratory sand shaking out, can move the casting forward which is fit for the small castings. The load: 1-10t.



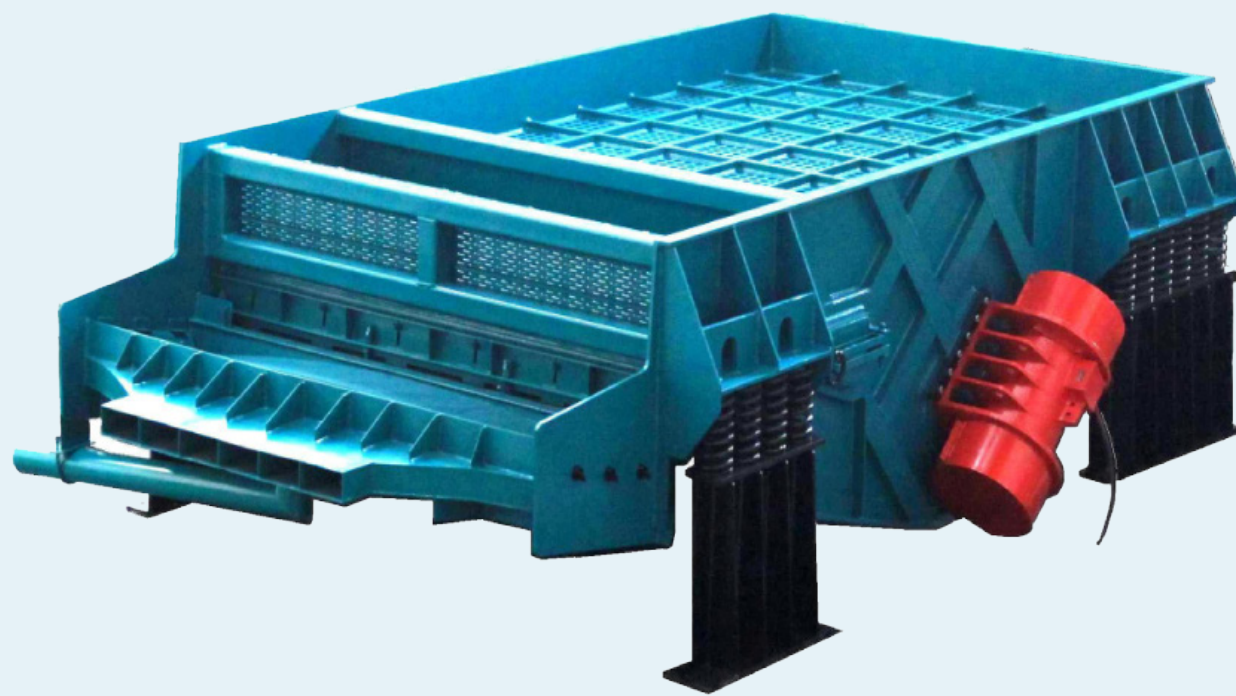
J₂L15系列振动落砂破碎一体机

J₂L15 Series vibratory shake-out - crashing machine

该机集振动落砂、破碎、筛分为一体，一机多能；布线灵活、投资少。落砂区、破碎区采用开放式结构，具有易清理、易维护等优点。

振动落砂破碎一体机根据砂子破碎能力包括5-30t/h系列。

The machine integrates the sand vibratory shaking out, crashing, and screening functions, multiple functions for one machine, flexible layout, and less investment. Both the sand shaking out and crashing areas are open, easy cleaning and maintenance.
The machine, based on the sand crashing capability, includes 5-30t/h Series.



新型法兰激振器式振动落砂机、落砂破碎一体机

New flange vibration exciter type vibratory shake-out machine and shake-out - crashing machine

该类落砂机、落砂破碎一体机是我公司研发的新型产品，采用普通电机驱动特制的法兰式激振器，产生较大的激振力，实现振动落砂功能。

特点：法兰式激振器故障率低，维护方便，有效减少落砂机的停机率，减少设备维护费用。

Both two machines are new products R&D by our company, i.e. a tailor-made flange vibration exciter is driven by a conventional motor to generate a higher excitation force so that the vibratory shaking-out function can be achieved.
Features: the flange vibration exciter has a low failure rate, easy maintenance, a less stop frequency and a less maintenance cost.

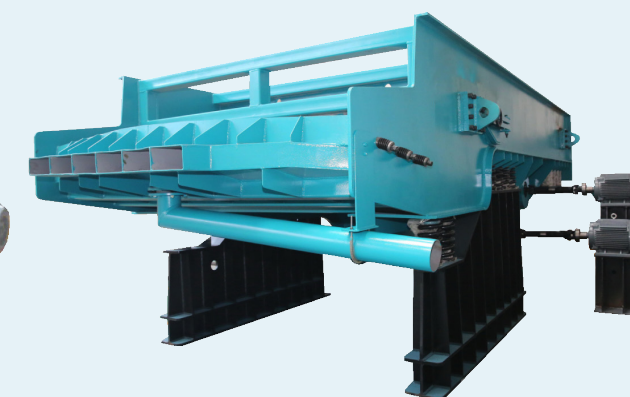
法兰激振器式振动落砂机载荷包括5-50t系列

The load of flange vibration exciter type vibratory shake-out machine includes 5-50t series.



法兰激振器式振动落砂破碎一体机根据砂子破碎能力包括5-30t/h系列。

Flange vibration exciter type vibratory shake-out - crashing machine, based on the sand crashing capacity, includes 5-30t/h Series.



J₂Y3系列惯性振动输送机
J₂Y3 Series inertia vibratory conveyor

J₂Y3系列振动输送机是专门用于输送热旧砂及其他粒状物的专用设备，具有以下特点：

J₂Y3 series inertia vibratory conveyor is special equipment to convey the hot used sand and other grains with the following features:

■ 机体采用整板折弯、焊接，整体强度大，刚性好。
The machine frame is a one-piece plate bent and welded, high strength, and good rigidity.

■ 激振电机与机体的连接采用特殊的结构设计，减少振动疲劳对寿命的影响。
The connection between the excitation motor and machine frame is a special structure design to prevent any vibratory fatigue effect on service life.

■ 电机的固定采用高强度紧固件，特殊的防松措施。
The motor is attached by a high strength fastener and special anti-looseness measurements.

■ 输送量可无级调整，以适应各种不同的工作要求。
The conveying amount can be adjusted stepless to meet operation requirements.



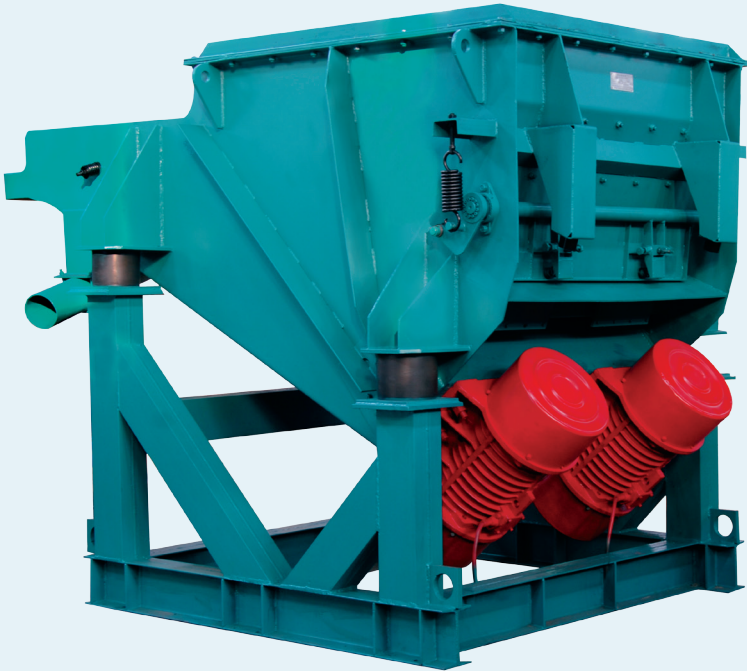
J₂S再生及调温设备
J₂S Series regeneration & temperature regulator

J₂S56系列振动破碎再生机 J₂S56 Series vibratory crashing regenerator

用于自硬砂旧砂砂块的破碎。
It's used to crash the used no-bake sand block.

■ 通过砂块之间的摩擦获得较好的脱膜效果，砂粒破损少。
■ 集破碎、再生、筛分于一体，安装方便，占地少。

■ 振动电机固定采用特殊高可靠性防松措施。
■ 可处理400摄氏度以上高温的旧砂。
■ 破碎筐为Mn钢耐磨材料，更换方便。



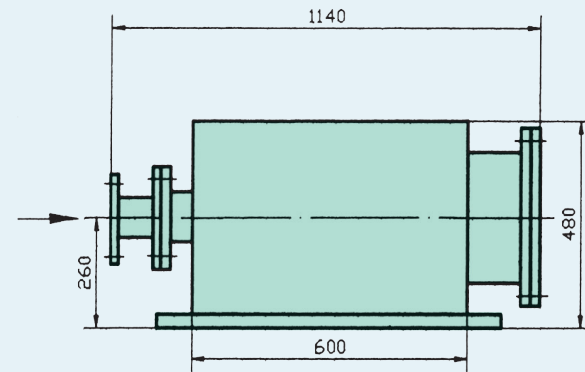
■ Good de-filming effect can be obtained by the friction between sand blocks, and less sand grain is damaged.
■ It integrates the crashing, regeneration, and screening functions, easy installation and less occupied space.
■ The vibratory motor is attached by special reliable anti-looseness measures.
■ It can handle used sand with a temperature over 400 °C.
■ The crashing basket is made of Mn steel wear-resistance material, easy replacement.

J ₂ S56系列振动破碎再生机技术参数 Technical parameters for J ₂ S56 Series vibratory crashing regenerator					
型号 Model	J ₂ S5605	J ₂ S5610	J ₂ S5615	J ₂ S5620	J ₂ S5630
电机功率 Motor power	2×2.2kw	2×3.7kw	2×5.5kw	2×7.5kw	2×12kw
生产率 Productivity	5t/h	10t/h	15t/h	20t/h	30t/h

J₂ZT105系列撞击再生装置 J₂ZT105 Series impact regenerator

该装置用于自硬砂的旧砂再生。可以使砂粒表面的粘接剂膜进一步脱落，实现旧砂的脱膜再生。
It is used for regeneration of used no-bake sand, which can further de-film the adhesive on sand surface for used sand de-filming and regeneration.

- 设备无运动件，易损件少
No moving parts, and fewer consumables;
- 噪音小，能耗低
Low noise, and low energy consumption;
- 脱膜效果好，砂粒粉碎少
Good de-filming effect, and less crashed sand grain;
- 安装、维修方便，占据空间小
Good de-filming effect, and less crashed sand grain.



J₂S52系列离心涡流式再生机 J₂S52 Series centrifugal eddy regenerator

该设备主要组成部分为机壳、驱动系统、旋转体、撞击挡板组、节流环等。
The equipment is mainly made of casing, drive system, eddy, impact baffle assembly and throttle ring, etc.

- 特制的缓冲锥，使料流合理。
Special-made buffer cone makes sand flow reasonable.
- 盆口抗磨材料有效延长其寿命。
The anti-friction material of the edge can effectively prolong its service life;
- 优化设计的撞击挡板组，封闭可靠，更换简易。
Optimally-designed impact baffle assembly is with reliable closure, and easy replacement;
- 可经组合使用，进一步增加脱膜效果。
Suitable for combination usage to further increase the de-filming effect.



J ₂ S52离心涡流式再生机技术参数 Technical parameters for J ₂ S52 Series centrifugal eddy regenerator				
型号 Model	生产率 Productivity	电机功率 Motor power	排风量 Air discharge capacity	再生脱膜率 Regeneration de-filming rate
J ₂ S5205	5t/h	15kw	3000m ³ /h	≥25%
J ₂ S5210	10t/h	22kw	3000m ³ /h	≥25%
J ₂ S5215	15t/h	30kw	3000m ³ /h	≥25%
J ₂ S5220	20t/h	37kw	3000m ³ /h	≥25%

J₂S50系列强力摩擦再生机 J₂S50 Series powerful friction regenerator

强力摩擦再生机具有脱膜率高（可调），砂粒圆整度好的特点，还具有对旧砂进行粗级风选及降温的功能。
The regenerator has features of high de-filming rate (adjustable), good roundness of sand grain, and roughly pneumatic picking-up and cooling of used sand.

- 采用以摩擦为主的再生原理，脱膜率高，破碎率低，并有效改善砂粒粒形及分布；
Mainly based on the friction regeneration principle, it has a high de-filming rate, low crashed rate, and can effectively improve the shape and distribution of sand grain;
- 砂粒在悬浮状态下再生，功率消耗低，砂粒无高速碰撞；
The sand grain regenerates in a suspended state, low power consumption, and without high speed impact between grains;
- 采用高硬度材料制作摩擦轮，使用寿命长，且更换方便；
The friction wheel is made of high-hardness material, long service life, and easy replacement;
- 轴承密封效果好，使用寿命长；
The bearing has a good sealing effect and a long service life;
- 调节生产率大小，可得到不同脱膜效果，可以根据不同的工艺要求，确定脱膜率，降低运行费用。
Different de-filming effect can be obtained by adjusting the productivity. So, it can decide the de-filming rate depending on different technological requirements to reduce operation cost.



强力摩擦再生机技术参数 Technical parameters for powerful friction regenerator				
型号 Model	基本生产率 Basic productivity	主电机功率 Main motor power	压缩空气压力 Compressed air pressure	压缩空气量 Compressed air capacity
J ₂ S5005	5t/h	2×11KW	0.3~0.5MPa	3N m ³ /min
J ₂ S5010	10t/h	2×11KW	0.3~0.5MPa	3N m ³ /min
J ₂ S5015	15t/h	2×11KW	0.3~0.5MPa	3N m ³ /min
J ₂ S5020	20t/h	2×15KW	0.3~0.5MPa	3N m ³ /min
J ₂ S5030	30t/h	2×18.5KW	0.3~0.5MPa	3N m ³ /min

J₂JR再生砂加热装置 J₂JR reclamation sand heating device

砂再生加热装置由炉体、燃烧器、送风系统、温度检测系统、控制系统等部分组成，主要用于旧砂高温再生，生产率3-5t/h，以提高其脱膜效果及回用性。

The sand reclamation heating device consists of furnace body, burner, blower, temperature detector, and control system, etc., which is mainly used to regenerate the used sand at a high temperature with an output of 3-5t/h to improve its de-filming effect and reclamation.

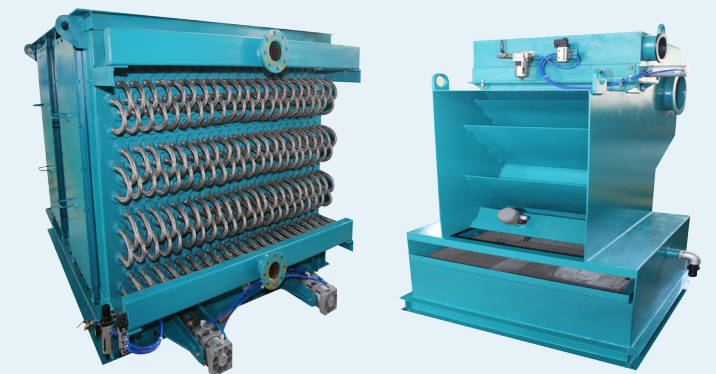
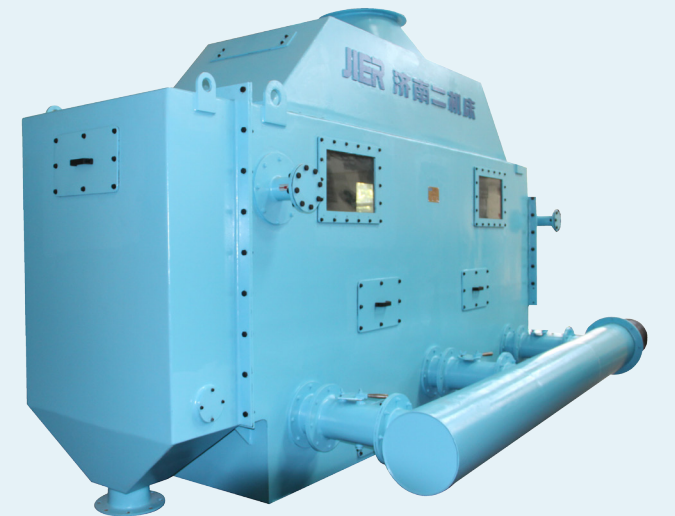
- 采用热气流逆向换热，保证热能的充分交换，满足自硬砂焙烧温度要求；
Hot airflow exchanges heat reversely to ensure full exchange of heat energy and to meet the required no-bake sand bake temperatures;
- 特殊的结构设计，实现了部分余热利用，保证了热能的充分利用，大大提高了热效率(65~70%)；
Special structure design can utilize some remaining heat, so that heat energy is fully used by which improves the heat efficiency (65~70%);
- 炉子运行的整个状态由PLC自动检测与控制。
The whole running status of the furnace is detected and controlled by PLC automatically.



J₂S84系列风选调温器、J₂S81系列沸腾冷却床 J₂S84 Series pneumatic pickup and temperature regulator and J₂S81 Series hot cooling bed

此类冷却设备是将已经破碎筛选的旧砂进行风选、调温的设备。调温器采用循环冷却水，循环水的耗量取决于砂子的进口温度和所希望的出口温度。砂子出口温度可以在控制柜上预置。
This cooling device is used to pneumatically pick up the used sand which has been crashed and screened, and regulate the temperature. The temperature regulator is filled with circulating cooling water and the water consumption depends on the temperatures at both the sand inlet and desired outlet. The sand outlet temperature can be preset on the control cabinet.

- 布料阀布料均匀且多级串接风选，分选效果好，微粉 0.1%；
Sand is uniformly spread by a distributor valve and multistep connection is used for pneumatic pickup in series, good pickup result, and micro powder ≤0.1%;
- 热交换面积大、冷却效果好，满足工艺要求；
Large heat exchange area and good cooling effect can meet technological requirements;
- 设备结构简单，运动部件少，砂流速度低，磨损少，无噪音。
Simple structure, fewer moving parts, low sand flow speed, less abrasion and no noise;
- 可预置出砂温度并全自动控制，也可根据实际情况手动控制。
The sand outlet temperature can be preset and controlled automatically or manually based on actual situations.



J ₂ S84系列风选、调温装置技术规格 Technical parameters for J ₂ S84 Series pneumatic pickup and temperature regulator			
生产率 Productivity	5~30 t/h	排风量 Air discharge capacity	4000m ³ /h
入口砂温 Inlet sand temperature	<200℃	出口砂温 Outlet sand temperature	30℃±5℃
进水温度 Inlet water temperature	比出口砂温低10℃ 10℃ lower than outlet sand temperature	压缩空气 Compressed air	0.4~0.6MPa
冷却原理 Cooling principle	逆流阻挡式 Adverse block-off type	控制 control	自动或手动 Auto or manual

J₂S系列水玻璃砂湿法再生系统

J₂S Series water glass sand wet reclamation system

J₂SLX系列湿法再生系统是专门用于CO₂水玻璃砂、酯硬化水玻璃砂的砂再生的环保型系统，解决了水玻璃砂的再生回用率低的难题。该系统主要由双级立式洗砂机、振动脱水筛、供水单元、控水及砂烘干单元、污水污泥处理单元组成。

- 旧砂再生效果好，处理后的旧砂可替代新砂使用；
- 再生回用率可到95%以上，基本无费砂排放；
- 污水经过处理之后可循环使用或定期达标排放，绿色环保、经济可靠。



J₂SLX series wet reclamation system is an environmental protection system of sand reclamation, special for CO₂ water glass sand and ester solidification water glass sand, which solves the low reclamation rate of water glass sand. It is mainly composed of two-stage vertical sand washer, vibratory dehydrating screen, water supply unit, water control and sand dryer unit, and sewage mud disposal unit.

■ Used sand reclamation effect is good so that the used sand can be used as new sand after being treated;

■ The reclamation rate can reach more than 95%, nearly no waste sand needs to be discharged.

■ The sewage can be recycled after being treated or discharged regularly, which is green environmental protection, economic, and reliable.

J₂GTFJ系列铬铁矿砂分离装置

J₂GTFJ Series Pneumatic Conveyor

系统组成：铬铁矿砂分离装置由两级高强磁分离装置、两级振动给料器、重力密度分离机、振动筛分器、电控系统等组成。去除微粉、调温后的含有铬铁矿砂的旧砂，经过该系统的各级设备处理后，能够从混合砂中分选出符合纯度要求可使用的铬铁矿砂。

System construction: Cr-Fe sand separation system consists of two-level high magnetic separation device, two-level vibratory loader, gravity density separator, vibratory selector, electrical control system, etc. The used-sand containing Cr-Fe and with powder removed and temperature adjusted is processed via levels of equipment of this system, usable Cr-Fe sand meeting purity requirement is thus selected from mixed sand.

■ 采用四级不同方式的分离技术，高效回收铬铁矿砂，节约生产成本。

Four-level technique of different separation methods is used to maximize reclaim Cr-Fe sand and save production cost.

■ 两级特制的高强磁磁辊，退磁率低，使用寿命长。Two-level specialized high magnetic roll with low demagnetizing index and long service life.

■ 特殊的重力密度分离床结构，每个室设置单独的压力调整系统，分离层均匀、分离度高。For special gravity density separation bed, each room has independent pressure adjustment system which gives uniform separation layer and high separation rate.

■ 系统兼具去除微粉功能，分离后的铬铁矿砂、石英砂更洁净。The system also has powder removal function so Cr-Fe sand and SiO₂ sand are cleaner after separation.



铬铁矿砂分离系统技术参数

Technical parameter of Cr-Fe sand separation system

分离系统能力 Separation system	回收率 Reclamation rate	装机功率 Machine power	分离后铬铁矿砂中石英砂含量 Cr-Fe after separation SiO ₂ in the sand content	分离后石英砂中铬铁矿砂含量 Cr-Fe after separation Cr-Fe in the sand content
10-20t/h	>70%	30kw	≤1.5%	≤2.0%

J₂S系列气力输送装置

J₂S Series Pneumatic Conveyor

本装置属于密相中压输送方式，适用于输送干燥颗粒物料，广泛用于铸造、医药、化工、粮食等行业。
The conveyor is a dense-phase medium-pressure conveying device, which is suitable for conveying dry particle material and widely used in foundry, medicine, chemical and foodstuff industries.

该装置可与送料管、球形弯头、三通、增压器（弯头）、圆盘卸料阀组成输送系统，可自动控制，多点卸料。也可以并入用户的大系统集中控制。

The device can be equipped with loading pipe, spherical elbow, T joint, air booster (elbow) and disc unloading valve to form a conveyor system, which can be automatically controlled and multi-position unloading or integrated into the general system for centralized control.

■ 密相输送，空气、物料间隔，运行速度小，再配以球形弯头等，物料粉碎少，管道磨损小，寿命特长。

Dense phase conveying, air and material separated, and low speed, equipped with spherical elbow, less material breakage and pipe wear , and very long service life.

■ 管道中配置球形弯头，输送方向可任意调节，安装方便，占用空间小。
Piping configured with spherical elbow, adjustable conveying direction, convenient installation and less space occupation.

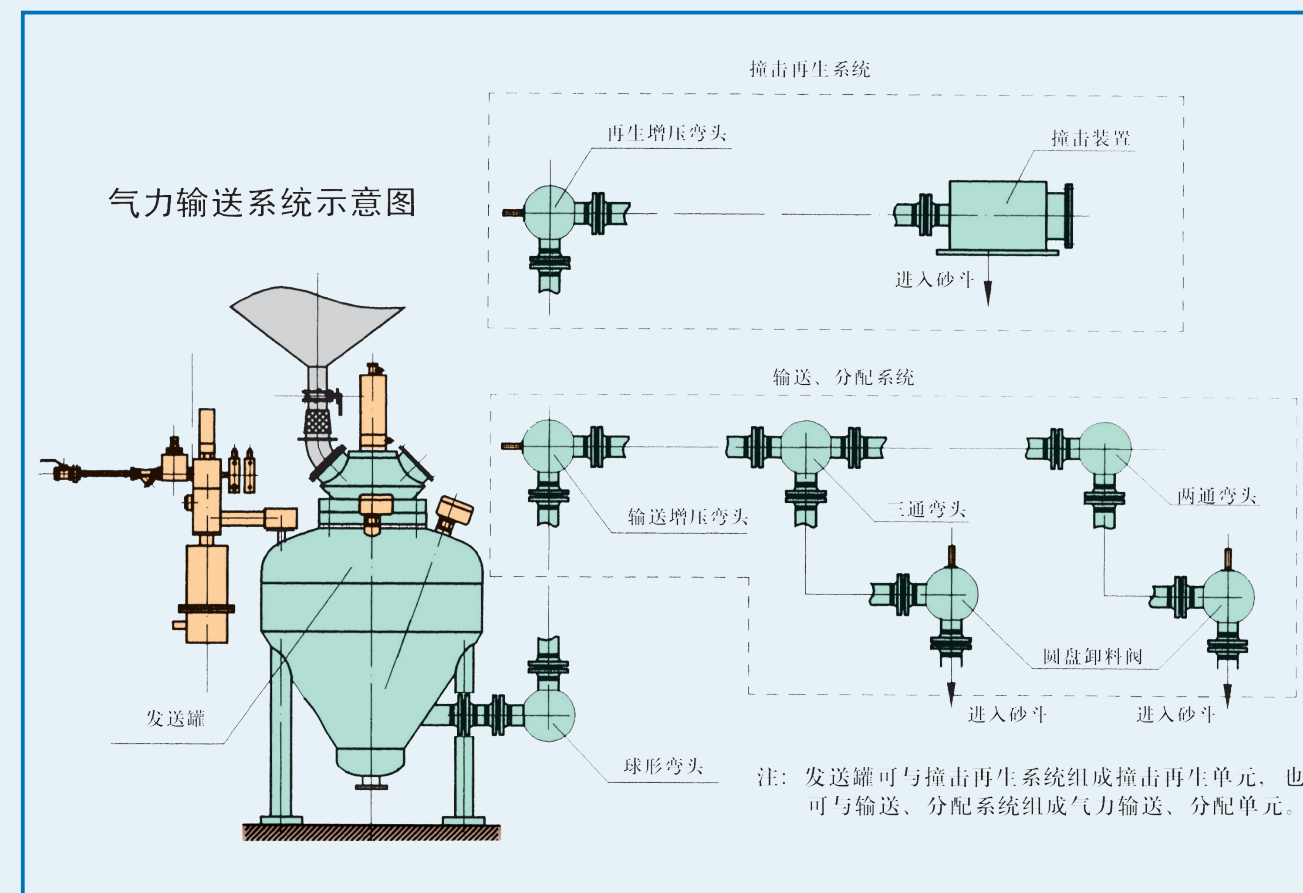
■ 输送物料温度可达400
Temperature for conveying material can be up to
400℃.

■ 能耗低，只有14Nm³/t物料。
Low energy consumption, only 14Nm³/t.

■ 可以实现远距离输送，如需要输送距离可达500m以上。
It can realize long-distance conveying, if necessary, the conveying distance can be more than 500m.

■ 输送效率高，最大输送能力达30t/h.
High conveying efficiency, maximum conveying capacity is 30t/h.

■ 噪音低。
Low noise.



气力输送装置性能参数(mm) Performance parameters of pneumatic conveyor (mm)					
型号 Model	容积 Volume	输送能力 Conveying capacity	压缩容器耗量 compressed air consumption	工作压力 Working pressure	管径 Pipe diameter
J ₂ S300	300L	5~10t/h	14Nm ³ /h	0.5~0.7Mpa	DN80
J ₂ S500	500L	10~15t/h	14Nm ³ /h	0.5~0.7Mpa	DN100
J ₂ S1000	1000L	15~20t/h	14Nm ³ /h	0.5~0.7Mpa	DN125
J ₂ S1250	1250L	20~25t/h	14Nm ³ /h	0.5~0.7Mpa	DN150
J ₂ S1500	1500L	25~30t/h	14Nm ³ /h	0.5~0.7Mpa	DN150

J₂系列连续混砂机

J₂ series continuous sand mixer

J₂系列固定式双臂连续混砂机、J₂系列固定式单臂连续混砂机和J₂系列移动式双臂连续混砂机可广泛应用于铸铁、铸钢，有色件自硬砂的混制，既适合于大中型铸件的单件小批量生产，亦可配备其它造型设备组成机械化造型生产线。

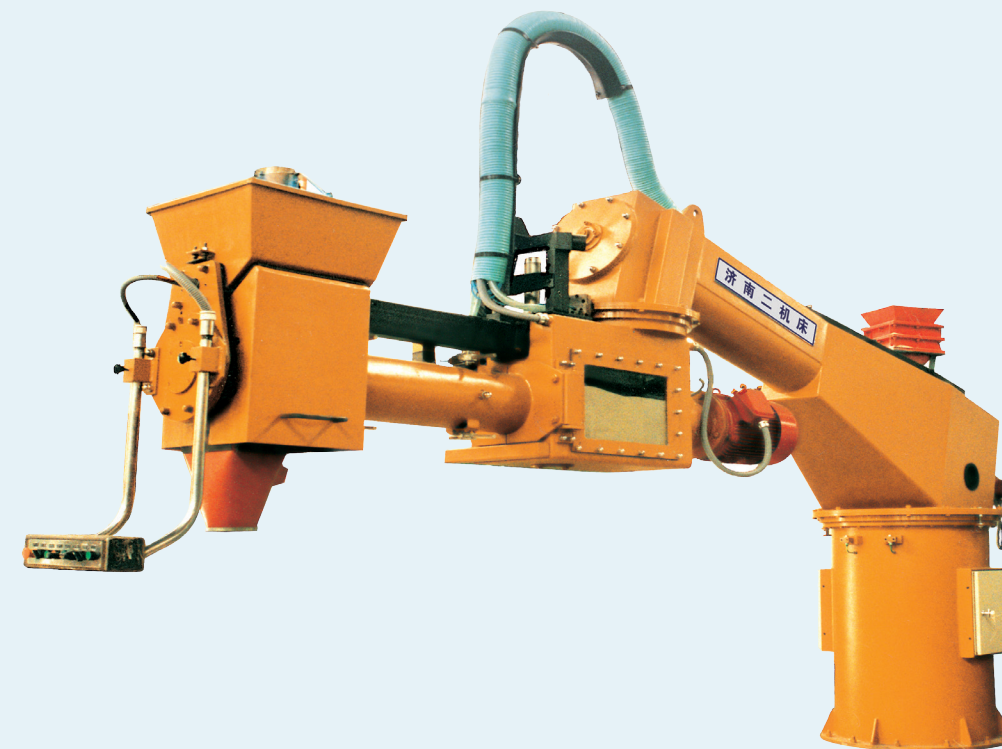
J₂ series stationary type double-arm continuous sand mixer, J₂ series stationary type single-arm continuous sand mixer, and J₂ series movable type double-arm continuous sand mixer can be used extensively in the mixture production of the no-bake sand for iron casting, steel casting, nonferrous metal part, which is fit for the single piece small batch production of large- and middle-sized castings or can be equipped with other molding equipment to form mechanized molding line.

J₂S25系列固定式双臂连续混砂机和J₂S24系列固定式单臂连续混砂机

J₂S25 Series stationary type double-arm continuous sand mixer and J₂S24 series stationary type single-arm continuous sand mixer

J₂系列混砂机主要由定量阀、输送臂、混砂臂、底座、液料系统等组成，广泛用于呋喃、碱酚醛、派普树脂砂工艺及水玻璃砂工艺造型。

J₂ series sand mixer mainly consists of ration valve, conveyor arm, mixing arm, base and liquid material system, which is widely used in processes molding of furan, alkaline phenol aldehyde, pep resin sand and water glass molding.



J₂S28系列移动式双臂混砂机、J₂S29系列移动升降式双臂混砂机
J₂S28 Series movable type double - arm sand mixer and J₂S29 Series movable lifting double - arm sand mixer

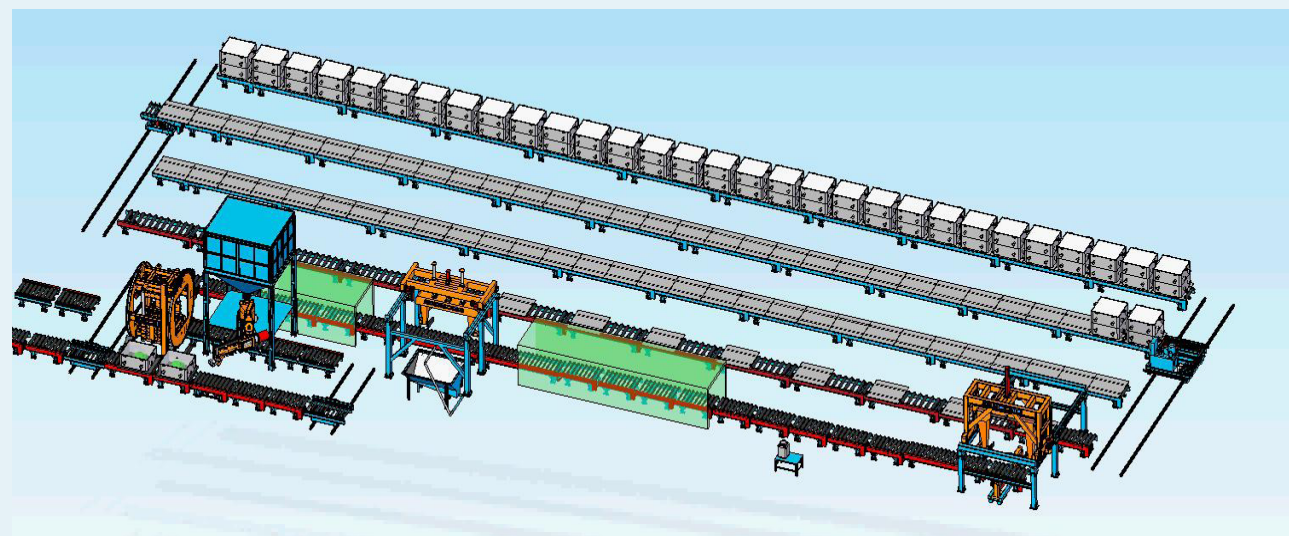
- J₂S系列混砂机可 根据用户的需求，配以移动小车、供砂系统及附属设备可改制成J₂S系列移动式混砂机。
J₂S series sand mixer, upon request of customer, can be optionally equipped with movable cart, sand supply system and accessory equipment to rebuild into J₂S series movable type sand mixer.
- 台车启动、停止过程运行平衡，并设有安全防护装置。
The startup and stop processes of the cart balanced, and safety protection available.
- 可配备适合工艺特点的供砂系统。使得混砂机在任何地点均可加砂。台车上去除了机械化运输 装置，轻便灵活，维修工作量小。
It can be equipped with a suitable sand supply system to realize sand filling at any position. Without any mechanical transportation device on the cart, so it's light and flexible, and less maintenance.
- 选用快换供砂系统时，供砂和混砂可同时进行，互不影响。
Sand supply and mixing can be performed simultaneously without interfering with each other if quick-change supply system is selected.



混砂机主要技术参数 Main Technical Data for Sand Mixer								
类别 Category	型号 Model	生产率 Productivity (t/h)	大臂 Large arm		小臂 Small arm		出砂口高度 Sand outlet height (mm)	备注 Notes
			长度 Length (mm)	送砂方式 Sand feeding mode	长度 Length (mm)	沸腾箱 Boiling box		
移动升降式双臂 连续混砂机 Continuous sand mixer with moving lifting double-arm	J ₂ S29	5-100	根据用户 要求 As per user's requirement	皮带 Belt	1500- 2650	无 No	根据用户要求	台车 Trolley
移动式双臂连续 混砂机 Continuous sand mixer with moving double- arm	J ₂ S28	5-100	根据用户 要求 As per user's requirement	皮带 Belt 螺旋 Spiral	1500- 2650	无 No 有 Yes	根据用户要求	

J₂Z系列自硬砂造型生产线 浇注生产线

J₂Z Series no-bake sand molding line casting line



在中小件铸件生产中，为了提高生产效率，确保质量，通常采用的方式是组成自硬砂柔性造型生产线，造型生产线一般由准备工位、造型工位、硬化工位、起模工位、运转小车、流涂站、表干炉、下芯合箱工位、自动化浇铸线等组成。

During the course of producing the medium- and small- castings, in order to improve productivity and to ensure the quality, normally, a flexible molding line of no-bake sand is used, which consists of preparation station, molding station, solidification station, stripping station, cart, coating station, surface drying station, core setting mould assembling station and auto sand casting line, etc.

■ 可根据用户的要求确定造型生产线各设备台面尺寸、载荷及造型生产线的生产节拍、工艺流程。

■ 全线采用PLC集中控制，自动化程度高，工艺稳定。

■ 全线设置完备的检测系统，根据需要检测芯盒或工位板的准确位置，并向PLC发出信号，实现自动控制。

■ 电控系统主要包括PLC，编程器，交流变频器，触摸显示屏，无触电接近开关，控制柜等。线上设置若干机旁控制箱，可以对全线所有动作手动操作，机旁控制箱上设置急停开关和故障指示灯。

■ The table dimensions and load bearing capacity of each equipment and line speed and process flow of molding line can be decided according to user's requirements.

■ The whole line is controlled centrally by PLC program, high degree of automation and stable process.

■ The whole line is equipped with a complete detector system, which can detect the precise position of core box or tray, and send signals to PLC to fulfill auto control.

■ The electrical control system mainly includes PLC, programmer, AC frequency converter, touch screen, non-contact electrical proximity switch and control cabinet, etc. The line is equipped several panels, which can manually operate the whole line. The panels are equipped with E-stop and fault indicator



J₂Z21系列固定式振实台、J₂Z22系列升降式振实台

J₂Z21 Series stationary type vibratory table, J₂Z22 Series lifting vibratory table

J₂Z系列振实台主要与混砂机配用，在自硬砂造型过程中，实现砂型紧实。

J₂Z series vibratory table mainly matches with the sand mixer, which compacts the sand mold during the course of no-bake sand molding.



固定式振实台参数 Stationary type vibratory table parameters			
型号 Model	载重(t) Weight	台面长x宽(mm) Table surface Length x Width	备注 Remarks
J ₂ Z2101	1	1200x900	均可按照用户要求定制 Can be made upon request of customer
J ₂ Z2102	2	1500x1200	
J ₂ Z2103	3	2000x1500	
J ₂ Z2105	5	2500x2500	
J ₂ Z2106	6	2000x1200	
J ₂ Z2108	8	2500x1800	
J ₂ Z2110	10	2000x2000	
J ₂ Z2112	12	2500x1800	
J ₂ Z2115	15	3500x3000	
J ₂ Z2120	20	4000x4000	
J ₂ Z2125	25	4000x3000	
J ₂ Z2130	30	3000x3000	
J ₂ Z2140	40	5000x4000	
J ₂ Z2150	50	3600x3600	
J ₂ Z2180	80	7000x5000	
J ₂ Z21120	120	7000x7000	

升降式振实台参数 Lifting vibratory table parameters			
型号 Model	载重(t) Weight	台面长x宽(mm) Table surface Length x Width	备注 Remarks
J ₂ Z2201	1	900x600	均可按照用户要求定制 Can be made upon request of customer
J ₂ Z2202	2	1400x800	
J ₂ Z2203	3	1600x800	
J ₂ Z2204	4	2000x800	
J ₂ Z2205	5	1800x800	
J ₂ Z2206	6	2700x1000	
J ₂ Z2208	8	1900x1000	
J ₂ Z2210	10	1800x1200	
J ₂ Z2215	15	2600x1400	
J ₂ Z2220	20	2700x1400	

J₂Z50系列翻转式流涂机、J₂Z51系列移出式流涂机

J₂Z50 Series rotary flowing coating machine, J₂Z51 Series moving - out flowing coating machine

该机由砂型夹紧机构、液压传动机构、涂料循环系统、搅拌系统组成，是专门为自硬砂造型线砂型浇涂涂料的专用设备。

- 驱动方式采用步进与造型线同步。
- 倾转机构采用双油缸驱动，设有慢-快-慢运行四路，保证运行平稳。
- 设有涂料搅拌系统、循环系统。

It consists of sand mould clamping mechanism, hydraulic drive, coating recycle system and mixing system. It is a special coating equipment for sand mould in no-bake sand molding line.

- The stepping driven is synchronized with the molding line.
- The rotary mechanism adopts dual-cylinder driven, which is equipped with slow-quick-slow four lines to ensure stable operation.
- It is equipped with coating mixing system and recycling system.



J₂Z72系列翻转起模机

J₂Z72 series rotary stripping machine

翻转起模机为造型生产线的主要设备，主要由固定机动辊道、活动机动皮带、夹紧油缸、回转机构、起模油缸、起模振动机、起模检测装置等组成。

- 回转机构可采用电动或液压方式，电动方式采用制动电机加减速机的传动方式，由交流变频器控制实现稳定准确的停车。液压方式采用进口原装比例调节阀控制，两种方式均能满足“慢—快—慢”的工艺要求，具有控制安全可靠，调速方便，维修保养简单的特点。
- 根据载荷要求，可采用O形及C形结构，四导柱或两导柱结构，刚性好，运行平稳。
- 起模检测装置用来防止脱模失败，起到安全保护作用。
- 翻转机上设置起模振动机，帮助脱模。

The rotary stripping machine is the key equipment of the molding line, which mainly consists of fixed motorized roller way, movable motorized belt, clamping cylinder, rotary mechanism, stripping cylinder, stripping vibrator and stripping detector, etc.

■ The rotary mechanism can be electrically or hydraulically driven. The electrical method adopts brake motor and speed reducer, which is controlled by AC frequency converter to realize stable and accurate stopping. The hydraulic method adopts imported original proportion valve. Both methods can meet the technological requirements of slow-quick-slow, with features of safe and reliable control, convenient speed adjustment and easy maintenance.

■ According to the load requirement, it can adopt O-frame or C-frame, four-plunger or two-plunger structure, better rigidity and stable running.

■ Stripping detection device is used as a protection device to avoid demolding failure.

■ The rotary machine is equipped with stripping vibrator to assist stripping.

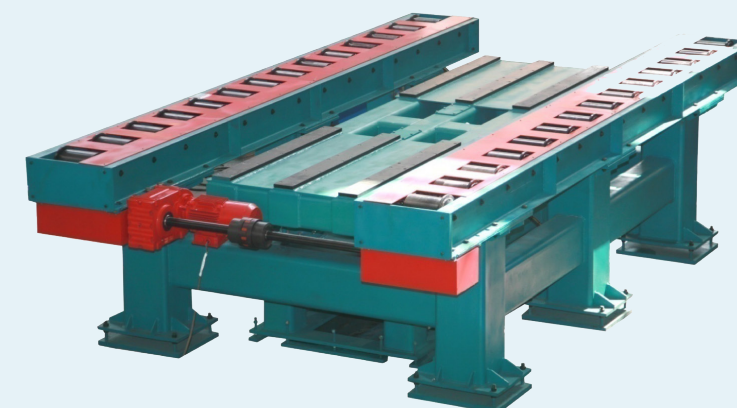


J₂Z74系列顶杆式起模机

J₂Z74 Series ejector-rod type stripping machine

该设备用于自硬砂造型生产线的起模工位，定位准确，动作平稳可靠。通过调整起模顶杆的位置，可方便地实施不同规格砂箱的起模作业。我公司可提供1-30t等规格的顶杆起模机，以满足用户的需求。

The machine is used in the stripping station of the no-bake sand molding line, accurate positioning and stable and reliable operation. By adjusting the stripping ejector-rod position, it conveniently performs stripping operation of various sand boxes. Our company can provide stripping machines with 1-30t ejector-rod to meet customers' needs.



J₂S52系列自动合箱机

J₂S52 Series automatic mould assembling machine

该系列自动合箱机可用于全自动造型生产线，结构上采用四爪定位，浮动合箱，整个合箱过程自动完成，无需人工操作。

The machine is used in full automatic molding line, which is of four-point positioning structure. It can float to assemble the mould and the whole assembling operation can be automatically completed without any manual operation.



J₂S54系列链式翻转机

J₂S54 Series chain type rotary manipulator

链式翻转机可用于砂型的起模、流涂、合箱，结构简单，操作方便。

- 链式翻转机是由二个安装在横梁轨架上的可移动夹持臂组成，夹紧、松开的位置对中。砂型重心变化造成的不平衡，可自动调整。
- 可进行180°范围内双向旋转，准确完成翻型动作
- 卷缆供电，遥控操作。

The manipulator is specially designed for the sand mould stripping, coating, and assembling, simple structure and easy operation.

- The manipulator consists of two movable clamping arms mounted on the crossbeam guide supports. The clamping and releasing positions are aligned. Non-stable weight due to asymmetrical sand mould can be automatically adjusted.
- It can be dual-directional rotary within 180° to accomplish mould rotary operation exactly.
- Power is supplied by rolled cable, remote control.



J₂龙门式自动浇注机

J₂ Gantry type automatic casting machine

J₂龙门式自动浇注机是适用于铸钢件底注式浇注工艺要求。该自动浇注机底座具有横向、纵向、上下三维移动功能。配有先进的影像识别系统及浇注重量控制系统，能够自动扫描并寻找浇口并对浇注过程进行实时监控。

- 主梁按照冶金起重机设计标准，横向和纵向运行采用伺服电机控制，安全可靠；
- 钢包升降采用机械升降结构，并在任意高度具备安全可靠的锁紧功能，防止钢包的意外下滑；
- 伺服电机控制钢包塞杆的开启和关闭，实现快速浇注、收流、关闭水口、小流补浇等功能；
- 具备称重、记录等功能，实现单箱浇注时间、单箱浇注重量、余钢称重报警等数据统计。

The J₂ gantry type automatic casting machine is suitable for bottom casting process of casting steel parts. This machine base can move in 3D directions, namely transversal, longitudinal, up and down. It is equipped with advanced camera identification system and casting weight control system, which can scan automatically and look for casting port and monitor the casting process at real time.

- Main beam conforms to design standard for metallurgy crane. Both the transversal and longitudinal running are controlled by servo motor, safe and reliable;
- Steel ladle is mechanically lifted and can be locked out safely and reliably at any height to prevent accidental falling down;
- Servo motor controls ladle rod opening and closing to fulfill quick casting, flowing back, flow port closing, small flow casting makeup, etc.
- It is capable of weighing and recording for statistic data of single box casting time, single box casting weight, the remaining steel weighing and warning, etc.



J₂Q系列铸造车间的环保除尘设备

J₂Q Series dust removal machine for environment protection in foundry shop

落砂、砂处理除尘一般采用反吹清理布袋除尘、滤筒除尘、熔炼浇注烟气除尘主要采用物理降温、化学吸附然后再进行物理过滤等方式。环保除尘效果主要取决于除尘系统参数设计计算以及除尘罩、除尘管路的设计方式。

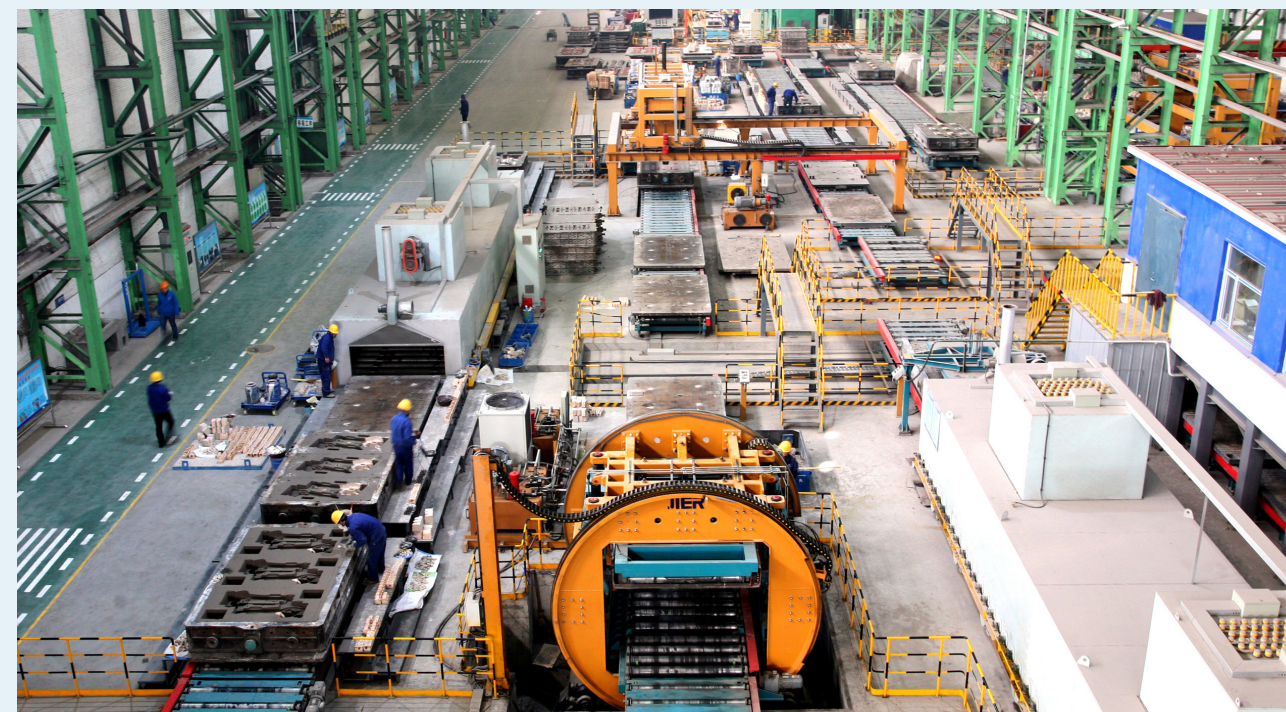
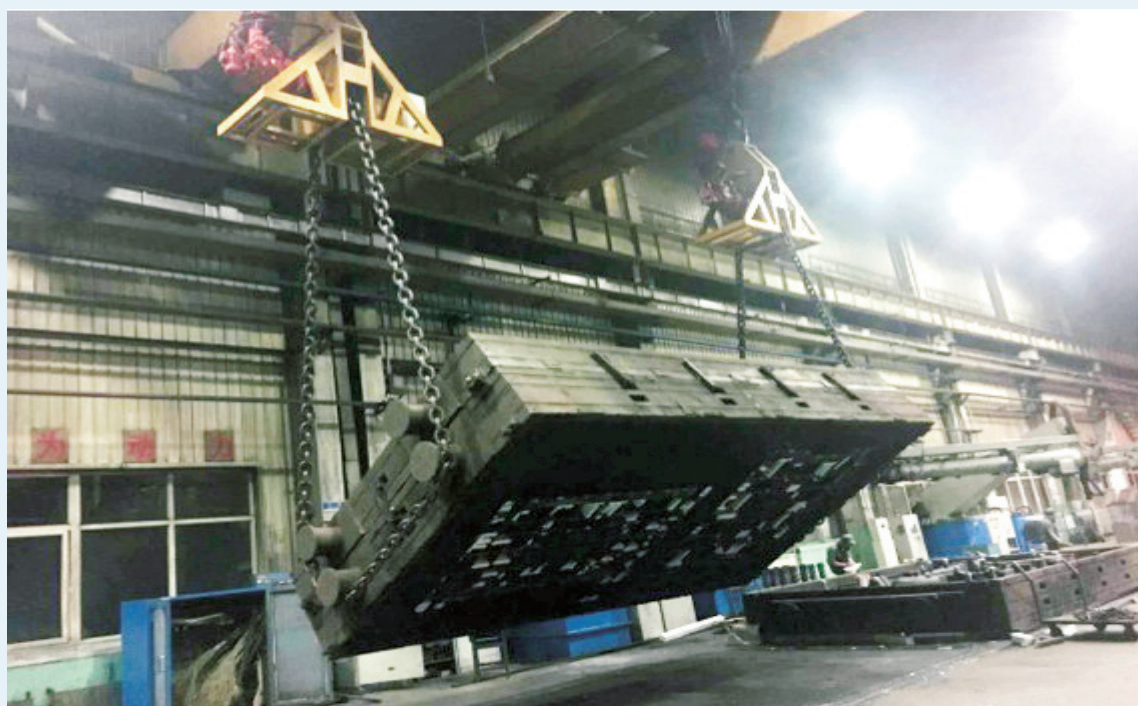
- 落砂、砂处理除尘
- 熔炼浇注烟气除尘
- 清理打磨除尘等

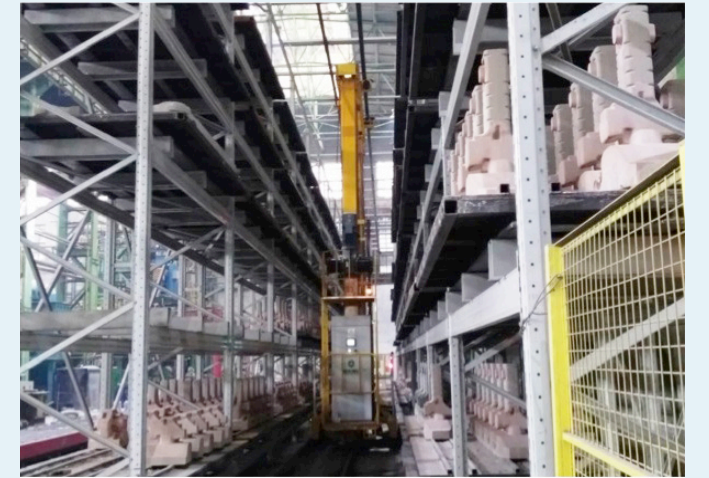
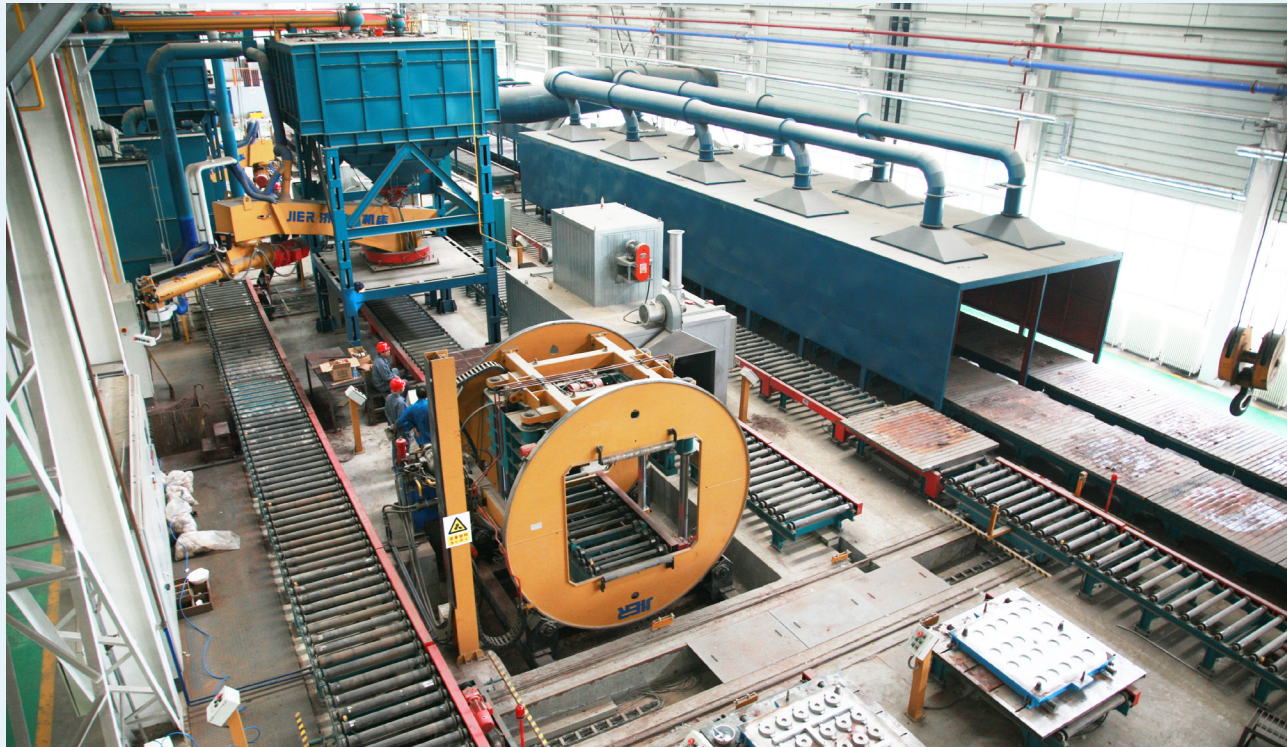
Dust removal for shake-out and sand treatment is generally done by counter-blowing cleaning bag and filter cylinder. Dust removal for melting and casting smoke is done mainly by physically cooling, chemical attachment and then physical filtering, etc. The environmental protection dust removal effect mainly depends on data setup and calculation of dust removal system, and the design of dust removal hood and piping.

- Dust removal for shake-out and sand treatment
- Dust removal for melting and casting smoke
- Dust removal for cleaning and grinding



部分“交钥匙”工程 Some turnkey projects







市场与客户 MARKETS & CUSTOMERS

产品广泛应用在汽车、航空航天、能源、船舶、轨道交通、冶金、军工、建筑、机床、模具等领域。

为每个客户和产品建立个性化档案，依据客户档案和不同区域的产品分布，启动了备件预储备计划管理机制，真正实现了主动提供及时、准确的个性化服务的承诺。

JIER products have been used extensively in the fields such as auto, aerospace, energy resources, shipping, rail transit, metallurgy, war Industry, architecture, machine-tool, and die etc.

Establish individual file for each customer and product, based on the customer file and the products distribution in different regions, a spare parts reservation plan control system has been available, by which, the promise Initiatively Offer Prompt and Accurate Individual Service has become true.



服务网络 SERVICE NETWORK

迄今为止，JIER的各类产品已经销往欧洲、南北美洲、亚洲、非洲以及大洋洲60多个国家和地区。

So far, JIER products have been sold to more than sixty (60) countries and regions such as Europe, South/North America, Asia, Africa and Oceania etc.

