立轴制砂 Vertical Sand Making

立轴制砂机是一种利用高速旋转的叶轮将物料抛向破碎腔内，通过物料之间的相互撞击和物料与破碎腔壁的冲击作用实现破碎的设备。其核心结构包括转子、叶轮、破碎腔和给料系统。转子带动叶轮以高速旋转，物料从上方进入后被叶轮加速抛出，形成“石打石”或“石打铁”的破碎方式。这种破碎方式能够有效减少物料的过度破碎，产出的成品砂具有颗粒均匀、针片状含量低、级配合理等优点，广泛应用于建筑骨料、人工砂生产以及矿山加工等领域。

The vertical sand making machine is a device that uses a high-speed rotating impeller to throw materials into the crushing cavity, and realizes crushing through the mutual impact between materials and the impact between materials and the wall of the crushing cavity. Its core structure includes a rotor, impeller, crushing cavity and feeding system. The rotor drives the impeller to rotate at high speed, and the material is accelerated and thrown out after entering from above, forming a crushing method of "stone hitting stone" or "stone hitting iron". This crushing method can effectively reduce excessive crushing of materials, and the finished sand produced has the advantages of uniform particles, low content of flaky particles, and reasonable gradation. It is widely used in construction aggregates, artificial sand production, and mining processing fields.

技术参数 Technical Data

型号 Model	转子直径 Rotor Diameter (mm)	转子宽度 Rotor Width (mm)	转速 Rotation Speed (r/min)	电机功率 Motor Power (kW)	处理量 Capacity (t/h)	进料粒度 Feed Size (mm)	出料粒度 Discharge Size (mm)
VSI-1000	1000	300	1500	132	80-120	≤30	0-5
VSI-1200	1200	350	1350	160	120-160	≤35	0-5
VSI-1400	1400	400	1200	200	160-200	≤40	0-5
VSI-1600	1600	450	1100	250	200-250	≤45	0-5
VSI-1800	1800	500	1000	315	250-300	≤50	0-5
VSI-2000	2000	550	950	355	300-350	≤55	0-5

结构特点 Structural Features

- 转子采用整体铸造或焊接结构，经过动平衡校正，运行平稳，振动小。
- 叶轮采用耐磨合金材料制造，使用寿命长，可根据物料特性更换不同形状的叶轮。
- 破碎腔内设有可更换的耐磨衬板，衬板采用高锰钢或陶瓷复合材料，减少磨损。
- 给料系统采用均匀给料装置，确保物料均匀进入转子，避免堵料现象。
- 设备配备液压张紧装置，皮带张紧力调节方便，传动效率高。
- 机架采用钢板焊接结构，刚性好，能够承受设备运行时的冲击载荷。

- The rotor adopts integral casting or welding structure, and is corrected by dynamic balance, running smoothly with small vibration.
- The impeller is made of wear-resistant alloy material, with long service life, and different shapes of impellers can be replaced according to material characteristics.
- The crushing cavity is equipped with replaceable wear-resistant liners, which are made of high manganese steel or ceramic composite materials to reduce wear.
- The feeding system adopts a uniform feeding device to ensure that materials evenly enter the rotor and avoid material blockage.
- The equipment is equipped with a hydraulic tensioning device, which is convenient to adjust the belt tension force and has high transmission efficiency.
- The frame adopts steel plate welding structure, with good rigidity, and can withstand the impact load during equipment operation.

工作原理 Working Principle

物料从给料口进入后，落在高速旋转的叶轮中心区域。叶轮将物料加速并抛向破碎腔壁，物料在抛出过程中与叶轮发生冲击，在破碎腔壁上发生冲击和反弹，多次破碎后从出料口排出。通过调节叶轮转速和给料量，可以控制成品砂的粒度和产量。

After entering from the feeding port, the material falls on the central area of the high-speed rotating impeller. The impeller accelerates the material and throws it to the wall of the crushing cavity. The material impacts with the impeller during the throwing process, and impacts and rebounds on the wall of the crushing cavity. After multiple crushings, it is discharged from the discharge port. By adjusting the impeller speed and feeding rate, the particle size and output of the finished sand can be controlled.

制砂机转子 Sand Making Rotor

制砂机转子是立轴制砂机的核心部件，由主轴、叶轮、转子盘等组成。转子高速旋转时，叶轮将物料抛向破碎腔壁，实现破碎。转子的质量直接影响设备的运行稳定性和破碎效果。

The rotor of sand making machine is the core component of vertical sand making machine, which is composed of main shaft, impeller, rotor disc, etc. When the rotor rotates at high speed, the impeller throws the material to the wall of the crushing cavity to realize crushing. The quality of the rotor directly affects the operation stability and crushing effect of the equipment.

技术参数 Technical Data

型号 Model	转子直径 Rotor Diameter (mm)	转子宽度 Rotor Width (mm)	转速 Rotation Speed (r/min)	电机功率 Motor Power (kW)	处理量 Capacity (t/h)	进料粒度 Feed Size (mm)	出料粒度 Discharge Size (mm)
VSI-1000	1000	300	1500	132	80-120	≤30	0-5
VSI-1200	1200	350	1350	160	120-160	≤35	0-5
VSI-1400	1400	400	1200	200	160-200	≤40	0-5
VSI-1600	1600	450	1100	250	200-250	≤45	0-5
VSI-1800	1800	500	1000	315	250-300	≤50	0-5
VSI-2000	2000	550	950	355	300-350	≤55	0-5

结构特点 Structural Features

- 转子采用整体铸造或焊接结构，经过动平衡校正，运行平稳，振动小。
- 叶轮采用耐磨合金材料制造，使用寿命长，可根据物料特性更换不同形状的叶轮。
- 破碎腔内设有可更换的耐磨衬板，衬板采用高锰钢或陶瓷复合材料，减少磨损。
- 给料系统采用均匀给料装置，确保物料均匀进入转子，避免堵料现象。
- 设备配备液压张紧装置，皮带张紧力调节方便，传动效率高。
- 机架采用钢板焊接结构，刚性好，能够承受设备运行时的冲击载荷。

- The rotor adopts integral casting or welding structure, and is corrected by dynamic balance, running smoothly with small vibration.
- The impeller is made of wear-resistant alloy material, with long service life, and different shapes of impellers can be replaced according to material characteristics.
- The crushing cavity is equipped with replaceable wear-resistant liners, which are made of high manganese steel or ceramic composite materials to reduce wear.
- The feeding system adopts a uniform feeding device to ensure that materials evenly enter the rotor and avoid material blockage.
- The equipment is equipped with a hydraulic tensioning device, which is convenient to adjust the belt tension force and has high transmission efficiency.
- The frame adopts steel plate welding structure, with good rigidity, and can withstand the impact load during equipment operation.

工作原理 Working Principle

物料从给料口进入后，落在高速旋转的叶轮中心区域。叶轮将物料加速并抛向破碎腔壁，物料在抛出过程中与叶轮发生冲击，在破碎腔壁上发生冲击和反弹，多次破碎后从出料口排出。通过调节叶轮转速和给料量，可以控制成品砂的粒度和产量。

After entering from the feeding port, the material falls on the central area of the high-speed rotating impeller. The impeller accelerates the material and throws it to the wall of the crushing cavity. The material impacts with the impeller during the throwing process, and impacts and rebounds on the wall of the crushing cavity. After multiple crushings, it is discharged from the discharge port. By adjusting the impeller speed and feeding rate, the particle size and output of the finished sand can be controlled.

振动给料机 Vibrating Feeder

振动给料机是一种利用振动电机产生的激振力，使物料在给料槽内连续均匀地向前运动的设备。其结构简单，运行可靠，广泛应用于矿山、冶金、建材等行业的破碎筛分生产线中。

The vibrating feeder is a device that uses the excitation force generated by the vibration motor to make the material move forward continuously and evenly in the feeding trough. Its structure is simple and reliable, and it is widely used in crushing and screening production lines in mining, metallurgy, building materials and other industries.

技术参数 Technical Data

型号 Model	给料槽宽度 Feeding Trough Width (mm)	给料槽长度 Feeding Trough Length (mm)	处理量 Capacity (t/h)	振动电机功率 Vibration Motor Power (kW)	给料粒度 Feed Size (mm)
ZSW-380×96	380	960	50-100	2×1.1	≤300
ZSW-490×130	490	1300	100-200	2×2.2	≤400
ZSW-600×150	600	1500	200-350	2×3.7	≤500
ZSW-700×160	700	1600	350-500	2×5.5	≤600
ZSW-860×180	860	1800	500-700	2×7.5	≤750
ZSW-1000×200	1000	2000	700-1000	2×11	≤900

结构特点 Structural Features

- 给料槽采用钢板焊接结构，槽底和侧板采用耐磨钢板，使用寿命长。
- 振动电机采用偏心块式激振器，通过调节偏心块的角度可以改变振幅和处理量。
- 设备采用弹簧减振装置，减少振动对基础的影响，运行平稳。
- 给料槽倾角可调，适应不同物料的给料要求。
- 设备结构简单，维护方便，易损件更换快捷。

- The feeding trough adopts steel plate welding structure, and the trough bottom and side plates are made of wear-resistant steel plates, with long service life.
- The vibration motor adopts an eccentric block exciter, and the amplitude and processing capacity can be changed by adjusting the angle of the eccentric block.
- The equipment adopts a spring vibration reduction device to reduce the impact of vibration on the foundation, running smoothly.
- The inclination angle of the feeding trough is adjustable to adapt to the feeding requirements of different materials.
- The equipment has simple structure, convenient maintenance, and quick replacement of wearing parts.

工作原理 Working Principle

振动电机产生的激振力通过给料槽传递给物料，使物料在槽内抛起并向前跳跃运动，实现连续给料。通过调节振动电机的偏心块角度，可以改变激振力的大小，从而调节给料量。

The excitation force generated by the vibration motor is transmitted to the material through the feeding trough, making the material throw up and jump forward in the trough to realize continuous feeding. By adjusting the eccentric block angle of the vibration motor, the excitation force can be changed, thereby adjusting the feeding rate.

振动筛分机 Vibrating Screen

振动筛分机是一种利用振动电机产生的激振力，使物料在筛面上进行分层和筛分的设备。其结构简单，筛分效率高，广泛应用于矿山、冶金、建材等行业的破碎筛分生产线中。

The vibrating screening machine is a device that uses the excitation force generated by the vibration motor to make the material stratify and screen on the screen surface. Its structure is simple and the screening efficiency is high, and it is widely used in crushing and screening production lines in mining, metallurgy, building materials and other industries.

技术参数 Technical Data

型号 Model	筛面宽度 Screen Width (mm)	筛面长度 Screen Length (mm)	筛分面积 Screening Area (m²)	振动电机功率 Vibration Motor Power (kW)	处理量 Capacity (t/h)	筛分粒度 Screening Size (mm)
ZSW-1860×5500	1860	5500	10.23	2×7.5	200-300	5-50
ZSW-2160×6000	2160	6000	12.96	2×11	300-450	5-80
ZSW-2460×6000	2460	6000	14.76	2×15	450-600	5-100
ZSW-2760×7000	2760	7000	19.32	2×18.5	600-800	5-120
ZSW-3060×7000	3060	7000	21.42	2×22	800-1000	5-150
ZSW-3660×8000	3660	8000	29.28	2×30	1000-1300	5-200

结构特点 Structural Features

- 筛箱采用钢板焊接结构，刚性好，能够承受设备运行时的冲击载荷。
- 筛面采用橡胶筛板或钢丝筛网，减少物料对筛面的磨损，降低噪音。
- 振动电机采用偏心块式激振器，通过调节偏心块的角度可以改变振幅和筛分效率。
- 设备采用弹簧减振装置，减少振动对基础的影响，运行平稳。
- 筛面倾角可调，适应不同物料的筛分要求。
- 设备结构简单，维护方便，易损件更换快捷。

- The screen box adopts steel plate welding structure, with good rigidity, and can withstand the impact load during equipment operation.
- The screen surface adopts rubber screen plates or steel wire screens to reduce the wear of materials on the screen surface and reduce noise.
- The vibration motor adopts an eccentric block exciter, and the amplitude and screening efficiency can be changed by adjusting the angle of the eccentric block.
- The equipment adopts a spring vibration reduction device to reduce the impact of vibration on the foundation, running smoothly.
- The inclination angle of the screen surface is adjustable to adapt to the screening requirements of different materials.
- The equipment has simple structure, convenient maintenance, and quick replacement of wearing parts.

工作原理 Working Principle

振动电机产生的激振力通过筛箱传递给筛面，使筛面上的物料产生抛掷运动，实现分层和筛分。通过调节振动电机的偏心块角度，可以改变激振力的大小，从而调节筛分效率。

The excitation force generated by the vibration motor is transmitted to the screen surface through the screen box, making the material on the screen surface throw and move, realizing stratification and screening. By adjusting the eccentric block angle of the vibration motor, the excitation force can be changed, thereby adjusting the screening efficiency.

圆振动筛 Circular Vibrating Screen

圆振动筛是一种利用振动电机产生的圆形振动轨迹，使物料在筛面上进行分层和筛分的设备。其结构简单，筛分效率高，广泛应用于矿山、冶金、建材等行业的破碎筛分生产线中。

The circular vibrating screen is a device that uses the circular vibration trajectory generated by the vibration motor to make the material stratify and screen on the screen surface. Its structure is simple and the screening efficiency is high, and it is widely used in crushing and screening production lines in mining, metallurgy, building materials and other industries.

技术参数 Technical Data

型号 Model	筛面宽度 Screen Width (mm)	筛面长度 Screen Length (mm)	筛分面积 Screening Area (m²)	振动电机功率 Vibration Motor Power (kW)	处理量 Capacity (t/h)	筛分粒度 Screening Size (mm)
YK-1860×5500	1860	5500	10.23	2×7.5	200-300	5-50
YK-2160×6000	2160	6000	12.96	2×11	300-450	5-80
YK-2460×6000	2460	6000	14.76	2×15	450-600	5-100
YK-2760×7000	2760	7000	19.32	2×18.5	600-800	5-120
YK-3060×7000	3060	7000	21.42	2×22	800-1000	5-150
YK-3660×8000	3660	8000	29.28	2×30	1000-1300	5-200

结构特点 Structural Features

- 筛箱采用钢板焊接结构，刚性好，能够承受设备运行时的冲击载荷。
- 筛面采用橡胶筛板或钢丝筛网，减少物料对筛面的磨损，降低噪音。
- 振动电机采用偏心块式激振器，通过调节偏心块的角度可以改变振幅和筛分效率。
- 设备采用弹簧减振装置，减少振动对基础的影响，运行平稳。
- 筛面倾角可调，适应不同物料的筛分要求。
- 设备结构简单，维护方便，易损件更换快捷。

- The screen box adopts steel plate welding structure, with good rigidity, and can withstand the impact load during equipment operation.
- The screen surface adopts rubber screen plates or steel wire screens to reduce the wear of materials on the screen surface and reduce noise.
- The vibration motor adopts an eccentric block exciter, and the amplitude and screening efficiency can be changed by adjusting the angle of the eccentric block.
- The equipment adopts a spring vibration reduction device to reduce the impact of vibration on the foundation, running smoothly.
- The inclination angle of the screen surface is adjustable to adapt to the screening requirements of different materials.
- The equipment has simple structure, convenient maintenance, and quick replacement of wearing parts.

工作原理 Working Principle

振动电机产生的圆形振动轨迹通过筛箱传递给筛面，使筛面上的物料产生抛掷运动，实现分层和筛分。通过调节振动电机的偏心块角度，可以改变振动轨迹的大小，从而调节筛分效率。

The circular vibration trajectory generated by the vibration motor is transmitted to the screen surface through the screen box, making the material on the screen surface throw and move, realizing stratification and screening. By adjusting the eccentric block angle of the vibration motor, the size of the vibration trajectory can be changed, thereby adjusting the screening efficiency.

直线振动筛 Linear Vibrating Screen

直线振动筛是一种利用振动电机产生的直线振动轨迹，使物料在筛面上进行分层和筛分的设备。其结构简单，筛分效率高，广泛应用于矿山、冶金、建材等行业的破碎筛分生产线中。

The linear vibrating screen is a device that uses the linear vibration trajectory generated by the vibration motor to make the material stratify and screen on the screen surface. Its structure is simple and the screening efficiency is high, and it is widely used in crushing and screening production lines in mining, metallurgy, building materials and other industries.

技术参数 Technical Data

型号 Model	筛面宽度 Screen Width (mm)	筛面长度 Screen Length (mm)	筛分面积 Screening Area (m²)	振动电机功率 Vibration Motor Power (kW)	处理量 Capacity (t/h)	筛分粒度 Screening Size (mm)
ZK-1860×5500	1860	5500	10.23	2×7.5	200-300	5-50
ZK-2160×6000	2160	6000	12.96	2×11	300-450	5-80
ZK-2460×6000	2460	6000	14.76	2×15	450-600	5-100
ZK-2760×7000	2760	7000	19.32	2×18.5	600-800	5-120
ZK-3060×7000	3060	7000	21.42	2×22	800-1000	5-150
ZK-3660×8000	3660	8000	29.28	2×30	1000-1300	5-200

结构特点 Structural Features

- 筛箱采用钢板焊接结构，刚性好，能够承受设备运行时的冲击载荷。
- 筛面采用橡胶筛板或钢丝筛网，减少物料对筛面的磨损，降低噪音。
- 振动电机采用偏心块式激振器，通过调节偏心块的角度可以改变振幅和筛分效率。
- 设备采用弹簧减振装置，减少振动对基础的影响，运行平稳。
- 筛面倾角可调，适应不同物料的筛分要求。
- 设备结构简单，维护方便，易损件更换快捷。

- The screen box adopts steel plate welding structure, with good rigidity, and can withstand the impact load during equipment operation.
- The screen surface adopts rubber screen plates or steel wire screens to reduce the wear of materials on the screen surface and reduce noise.
- The vibration motor adopts an eccentric block exciter, and the amplitude and screening efficiency can be changed by adjusting the angle of the eccentric block.
- The equipment adopts a spring vibration reduction device to reduce the impact of vibration on the foundation, running smoothly.
- The inclination angle of the screen surface is adjustable to adapt to the screening requirements of different materials.
- The equipment has simple structure, convenient maintenance, and quick replacement of wearing parts.

工作原理 Working Principle

振动电机产生的直线振动轨迹通过筛箱传递给筛面，使筛面上的物料产生抛掷运动，实现分层和筛分。通过调节振动电机的偏心块角度，可以改变振动轨迹的大小，从而调节筛分效率。

The linear vibration trajectory generated by the vibration motor is transmitted to the screen surface through the screen box, making the material on the screen surface throw and move, realizing stratification and screening. By adjusting the eccentric block angle of the vibration motor, the size of the vibration trajectory can be changed, thereby adjusting the screening efficiency.

高频筛 High-frequency Screen

高频筛是一种利用高频振动电机产生的高频振动轨迹，使物料在筛面上进行分层和筛分的设备。其结构简单，筛分效率高，广泛应用于矿山、冶金、建材等行业的破碎筛分生产线中。

The high-frequency screen is a device that uses the high-frequency vibration trajectory generated by the high-frequency vibration motor to make the material stratify and screen on the screen surface. Its structure is simple and the screening efficiency is high, and it is widely used in crushing and screening production lines in mining, metallurgy, building materials and other industries.

技术参数 Technical Data

型号 Model	筛面宽度 Screen Width (mm)	筛面长度 Screen Length (mm)	筛分面积 Screening Area (m²)	振动电机功率 Vibration Motor Power (kW)	处理量 Capacity (t/h)	筛分粒度 Screening Size (mm)
GP-1860×5500	1860	5500	10.23	2×7.5	200-300	5-50
GP-2160×6000	2160	6000	12.96	2×11	300-450	5-80
GP-2460×6000	2460	6000	14.76	2×15	450-600	5-100
GP-2760×7000	2760	7000	19.32	2×18.5	600-800	5-120
GP-3060×7000	3060	7000	21.42	2×22	800-1000	5-150
GP-3660×8000	3660	8000	29.28	2×30	1000-1300	5-200

结构特点 Structural Features

- 筛箱采用钢板焊接结构，刚性好，能够承受设备运行时的冲击载荷。
- 筛面采用橡胶筛板或钢丝筛网，减少物料对筛面的磨损，降低噪音。
- 振动电机采用偏心块式激振器，通过调节偏心块的角度可以改变振幅和筛分效率。
- 设备采用弹簧减振装置，减少振动对基础的影响，运行平稳。
- 筛面倾角可调，适应不同物料的筛分要求。
- 设备结构简单，维护方便，易损件更换快捷。

- The screen box adopts steel plate welding structure, with good rigidity, and can withstand the impact load during equipment operation.
- The screen surface adopts rubber screen plates or steel wire screens to reduce the wear of materials on the screen surface and reduce noise.
- The vibration motor adopts an eccentric block exciter, and the amplitude and screening efficiency can be changed by adjusting the angle of the eccentric block.
- The equipment adopts a spring vibration reduction device to reduce the impact of vibration on the foundation, running smoothly.
- The inclination angle of the screen surface is adjustable to adapt to the screening requirements of different materials.
- The equipment has simple structure, convenient maintenance, and quick replacement of wearing parts.

工作原理 Working Principle

高频振动电机产生的高频振动轨迹通过筛箱传递给筛面，使筛面上的物料产生抛掷运动，实现分层和筛分。通过调节振动电机的偏心块角度，可以改变振动轨迹的大小，从而调节筛分效率。

The high-frequency vibration trajectory generated by the high-frequency vibration motor is transmitted to the screen surface through the screen box, making the material on the screen surface throw and move, realizing stratification and screening. By adjusting the eccentric block angle of the vibration motor, the size of the vibration trajectory can be changed, thereby adjusting the screening efficiency.

脱水筛 Dewatering Screen

脱水筛是一种利用振动电机产生的振动轨迹，使物料在筛面上进行分层和筛分，同时去除水分的设备。其结构简单，筛分效率高，广泛应用于矿山、冶金、建材等行业的破碎筛分生产线中。

The dewatering screen is a device that uses the vibration trajectory generated by the vibration motor to make the material stratify and screen on the screen surface while removing moisture. Its structure is simple and the screening efficiency is high, and it is widely used in crushing and screening production lines in mining, metallurgy, building materials and other industries.

技术参数 Technical Data

型号 Model	筛面宽度 Screen Width (mm)	筛面长度 Screen Length (mm)	筛分面积 Screening Area (m²)	振动电机功率 Vibration Motor Power (kW)	处理量 Capacity (t/h)	筛分粒度 Screening Size (mm)
TS-1860×5500	1860	5500	10.23	2×7.5	200-300	5-50
TS-2160×6000	2160	6000	12.96	2×11	300-450	5-80
TS-2460×6000	2460	6000	14.76	2×15	450-600	5-100
TS-2760×7000	2760	7000	19.32	2×18.5	600-800	5-120
TS-3060×7000	3060	7000	21.42	2×22	800-1000	5-150
TS-3660×8000	3660	8000	29.28	2×30	1000-1300	5-200

结构特点 Structural Features

- 筛箱采用钢板焊接结构，刚性好，能够承受设备运行时的冲击载荷。
- 筛面采用橡胶筛板或钢丝筛网，减少物料对筛面的磨损，降低噪音。
- 振动电机采用偏心块式激振器，通过调节偏心块的角度可以改变振幅和筛分效率。
- 设备采用弹簧减振装置，减少振动对基础的影响，运行平稳。
- 筛面倾角可调，适应不同物料的筛分要求。
- 设备结构简单，维护方便，易损件更换快捷。

- The screen box adopts steel plate welding structure, with good rigidity, and can withstand the impact load during equipment operation.
- The screen surface adopts rubber screen plates or steel wire screens to reduce the wear of materials on the screen surface and reduce noise.
- The vibration motor adopts an eccentric block exciter, and the amplitude and screening efficiency can be changed by adjusting the angle of the eccentric block.
- The equipment adopts a spring vibration reduction device to reduce the impact of vibration on the foundation, running smoothly.
- The inclination angle of the screen surface is adjustable to adapt to the screening requirements of different materials.
- The equipment has simple structure, convenient maintenance, and quick replacement of wearing parts.

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