

碎石生产线主要由振动给料机、颚式破碎机、反击式破碎机、振动筛、胶带输送机、集中电控等设备组成；设计产量一般为 50-500 吨/小时。为满足客户不同的加工需要，可配备圆锥式破碎机、除尘设备等。下面介绍我公司碎石生产线中单台设备工作原理。

Stone production line includes vibrating feeder, jaw crusher, impact crusher, vibrating screen, belt conveyor and centrally electric controlling system, etc. The designed capacity is from 50t/h to 500t/h. To meet customer's specific requirement, we can also add other equipments such as cone crusher, dust catcher on the production line.

The following is a brief introduction of the each machine's operation principle in stone production line.

### 颚式破碎机

我公司生产的颚式破碎机是集国内外同类产品的成功经验，潜心研究出的一种高效，节能的破碎设备。广泛运用于矿山、冶金、建材、公路、铁路、水利和化工等多种行业。具有破碎比大，产品粒度均匀、结构简单，工作可靠，运营费用低等优点，是初级破碎最理想的选择设备。

### Jaw crusher

Our jaw crusher is a high efficient and energy saving machinery which introduces successful experience of the same machines home and abroad. These series of jaw crushers are widely used in mine, metallurgy, construction, road building, railway, water conservancy and chemical industry. They feature high crushing ratio, good shape in product, simple structure, reliable performance and low operation cost. They are ideal choice for primary crushing.

### 颚式破碎机工作原理：

电动机驱动皮带和皮带轮，通过偏心轴使动颚上下运动，当动颚上升时肘板和动颚间夹角变大，从而推动动颚板向定颚板接近，与此同时物料被挤压、搓达到破碎目的；当动颚下行时，肘板和动颚间夹角变小，动颚板在拉杆、弹簧的作用下离开定颚板，此时已破碎物料从破碎腔下口排出，随着电动机连续转动而破碎机动颚作周期性的压碎和排料，实现批量生产。

### **Operation principle of jaw crusher:**

The motor drives the belt and the grooved wheel, which connect the eccentric shaft. Through the movement of eccentric shaft, the movable jaw plate moves up and down. When movable jaw plate moves up, the angle between it and toggle plate will be enlarged, so the movable jaw plate will be close to fixed jaw plate. Then, the materials will be pressed and crushed; when movable jaw plate moves down, the angle between it and toggle plate will be reduced, movable jaw plate will moves away from fixed jaw plate due to the tension rod and springs. At this moment, the crushed materials will be discharged at discharge opening. With moving of motor and periodical movement of movable jaw plate, material will be crushed and discharged gradually, so that batch production will be reached.

### **反击式破碎机**

反击式破碎机是我公司在吸收国内外先进技术，结合国内砂石行业具体工矿条件而研制的最新一代反击式破碎机。广泛应用于各种矿石破碎、铁路、高速公路、能源、水泥、化工、建筑等行业。其排料粒度大小可以调节，破碎规格多样化。成品呈立方体，无张力和裂缝，粒形好；高铬板锤，抗冲击、抗磨损，无键连接、冲击力大；具有检修方便，经济可靠；破碎功能全、生产率高、机件磨耗小、综合效益高等优点。

### **Impact crusher**

Impact crusher is a newly developed crusher based on advanced technologies home and abroad as well as China's practical mining conditions. It is widely applied in various material crushing, railway, energy, cement, chemical industry and construction. The final size can be adjusted and crushing style is versatile the final product takes on cubic shape with no tension and cracks; high chrome blow bar, impact and erosion-resistant, no-key connection, high impact strength; it processes the advantages of easy maintenance, high reliability; complete crushing ability, high productivity, little erosion in spare parts, and high comprehensive efficiency.

**反击式破碎机(反击破)工作原理：**工作过程中，在电动机的带动下，转子高速旋转，当物料进入板锤作用区时，受到板锤的高速冲击不断地被抛向安装在转子上方的反击板上，然后又从反击衬板弹回到板锤作用区重新破碎，物料由大到小在破碎腔内被重复破碎，直到物料被破碎至所需粒度，由机器下部排出。调整反击架与转子之间的间隙可达到改变出料粒度和物

料形状的目的。

**Operation principle of impact crusher:**

During the operation, with the drive of motor, the rotors turn at a high speed. When materials enter the blow bar area, they are thrown to the impact plate above the rotors with the strike strength of blow bar. Then the materials are rebounded back to the blow bar for recrushing. In this way, the materials will be crushed many times in the crusher until they can meet standard and be discharged at the bottom of the machine. The size and shape of final products can be adjusted by changing the gap between the impact rack and the rotors.

**碎石生产线流程：**

大块石料经料仓由振动给料机均匀地送进鄂式破碎机进行粗碎，粗碎后的石料由胶带输送机送到反击式破碎机进行进一步破碎；细碎后的石料由胶带输送机送进振动筛进行筛分，筛分出几种不同规格的石子，满足粒度要求的石子由成品胶带输送机送往成品料堆；不满足粒度要求的石子由胶带输送机返料送到反击式破碎机进行再次破碎，形成闭路多次循环。成品粒度可按照用户的需求进行组合和分级，为保护环境，可配备辅助的除尘设备。

**Process of stone production line:**

Big materials are fed to the jaw crusher evenly and gradually by vibrating feeder through a hopper for primary crushing. After first crush, the material will transferred to impact crusher by belt conveyor for secondary crush; the crushed materials will then transferred to vibrating screen for separating. After separating, the parts that can meet standard will be transferred away as final products, while the other parts will be returned to impact crusher, thus forming a closed circuit. Size of final products can be combined and graded according to customer's specific requirement. We can also equip dust catcher system to protect environment.