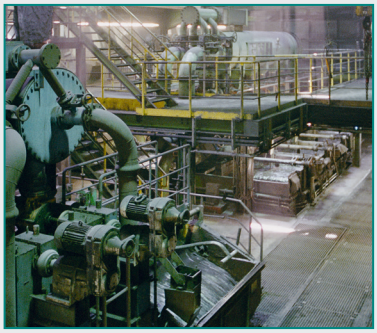
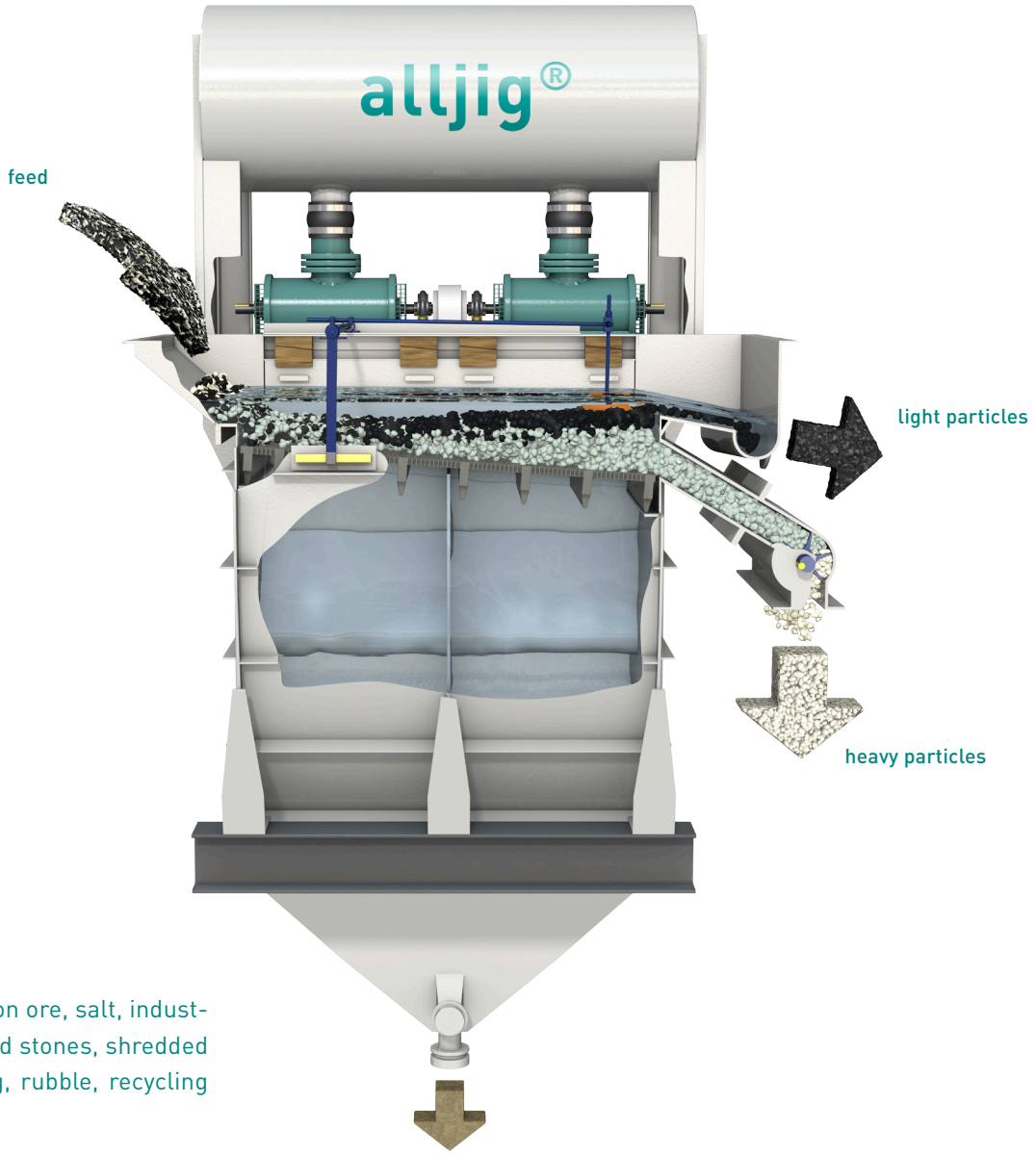
allmineral



alljig® | Product Information



alljig®

Applications

Gravel, sand, coal, iron ore, salt, industrial minerals, crushed stones, shredded material, metal, slag, rubble, recycling materials

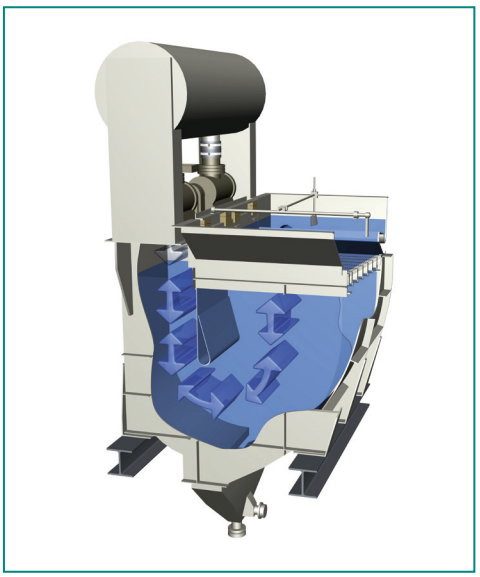
Advantages

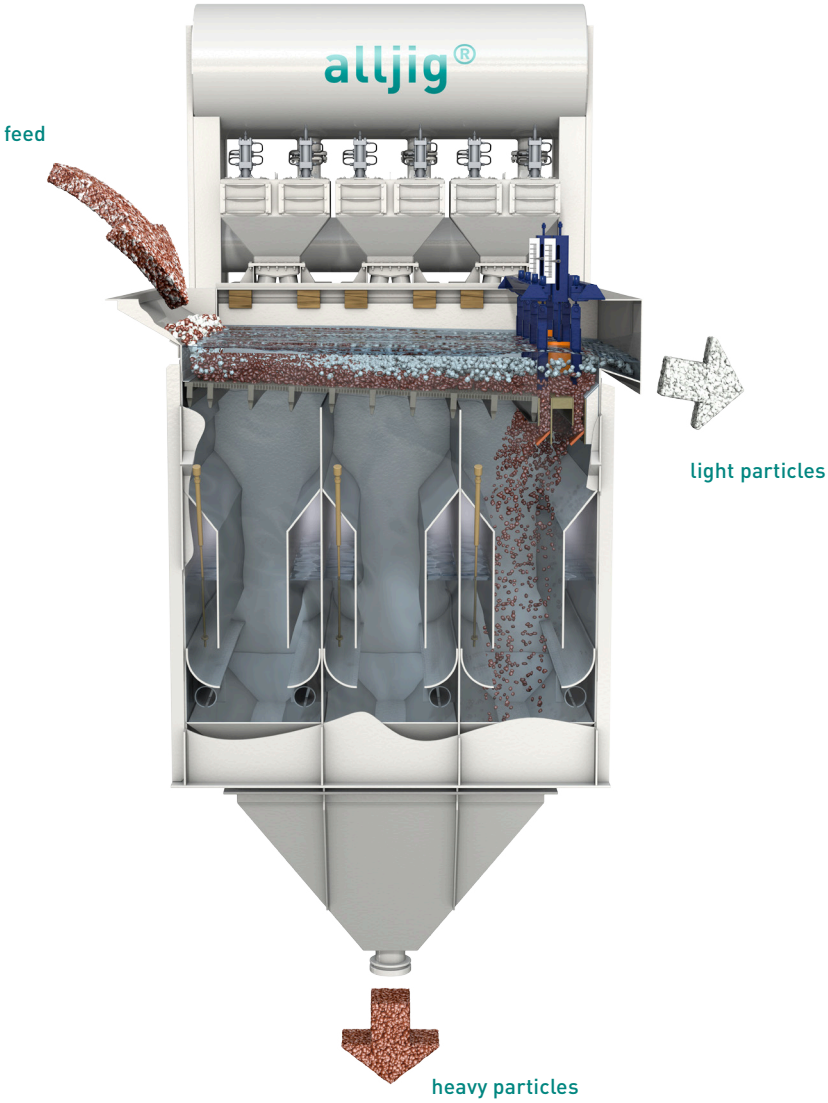
High efficiency, low maintenance, large feed size range, high capacity, sharp separation, reduced energy and investment costs, reliability, easy to operate

Technology

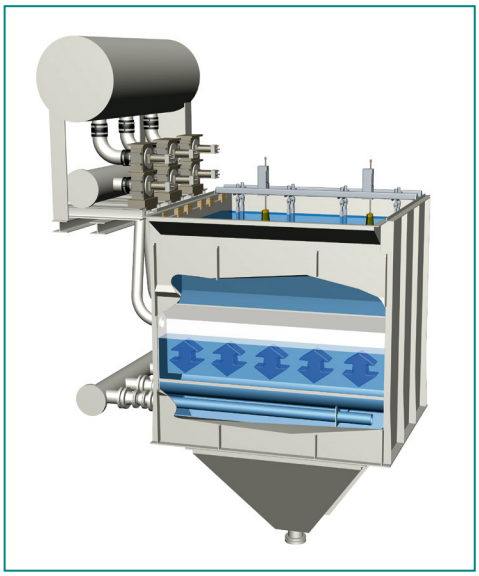
- Air-pulsed jig with minimum energy consumption
- jigging stroke control by rotary or poppet valves
- fully automatic operation with analog measurement of bed depth
- operation parameters adjustable during operation
- throughput rates of 5 - 700 t/h per machine
- particle size ranges from 150 mm (6") to less than 1 mm (16 mesh)

alljig®
side pulsed jigging machine





alljig®
underbed pulsed jigging machine



Separation of minerals in jigging machines is based on the fact that particles will stratify in pulsating water. The upward and downward currents fluidize and compact the grains into relatively homogenous layers. Low density pieces stratify on the surface, while specifically heavy grains settle to the lower level of the bed.

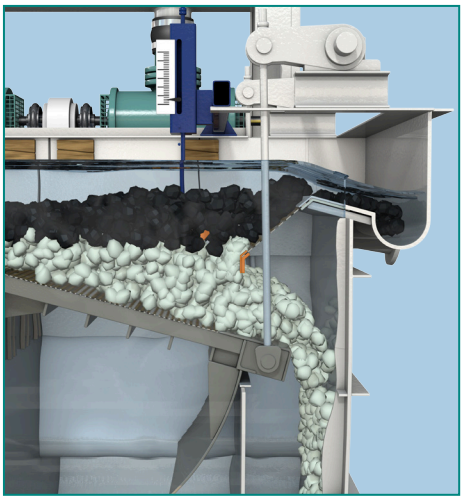
alljig® jigging machines are air-pulsed, and therefore the pulsation of the water may be achieved nearly wear-free and so the stroke-motion (frequency, amplitude and shape) can be adjusted within wide parameters during operation.

The second main criteria for excellent jigging results is the discharge of the heavy product out of the stratified material. The product is always discharged out of a reserve layer. Stratification and discharge of **alljig®** jigging machines are controlled by an analogue measurement system which allows simple and exact detection of gravity horizons and its continuous discharge.

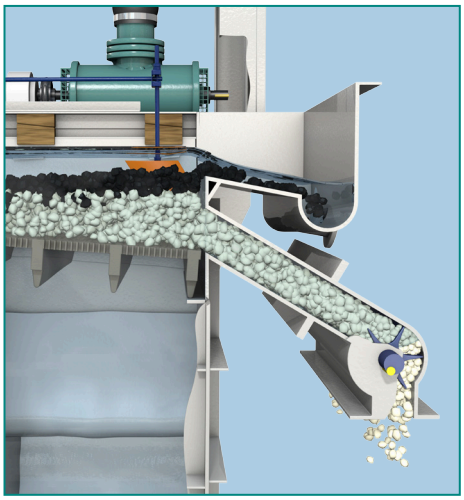
Depending on the application and the feed particle size, the discharge is realized by means of a movable bed, bottom gate, star gate or vibrating feeder discharge.

The operating parameters of **alljig®** jigging machines can be adjusted and optimized according to feed characteristics during operation.

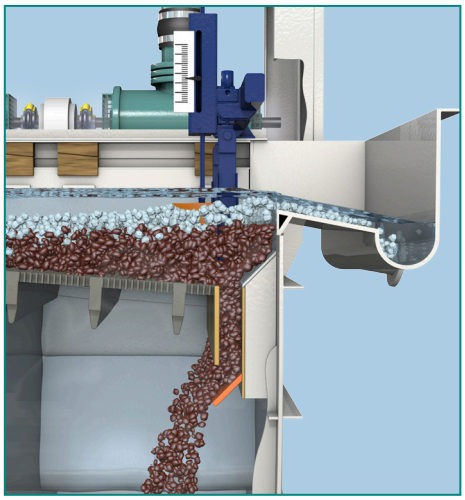
alljig®- jigs are in operation for the cleaning of different raw and recycling materials. The only prerequisite is a difference in the particle density.



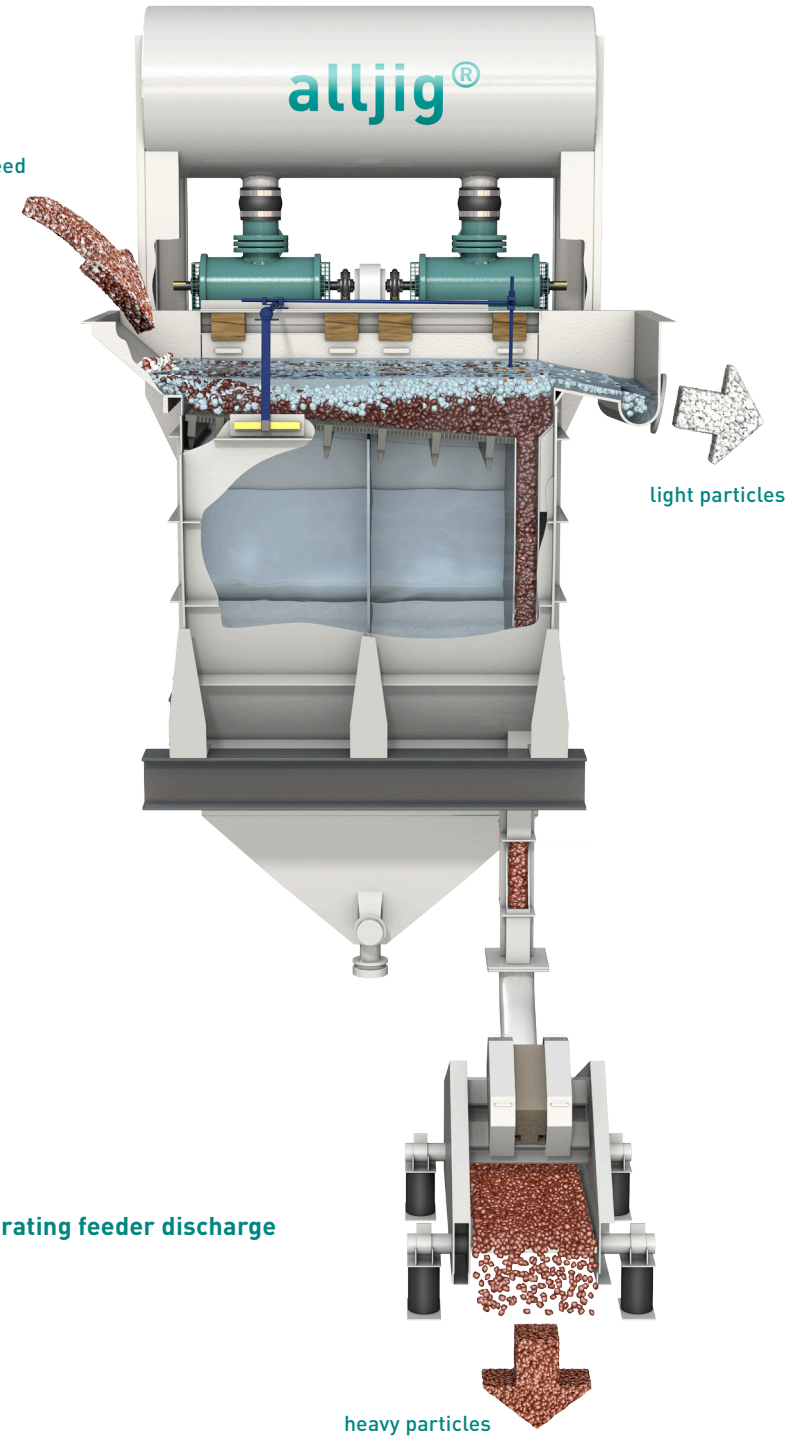
Movable bed
grain size max. 150 mm (6“)



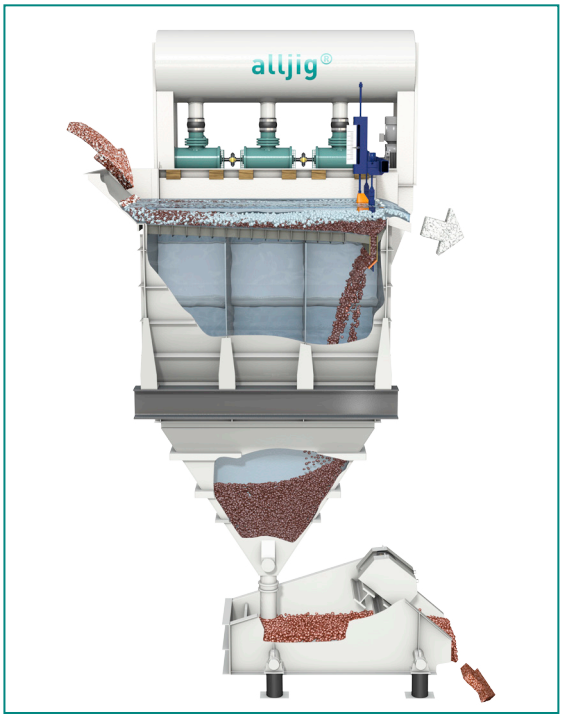
Star gate discharge
grain size max. 60 mm (2“)



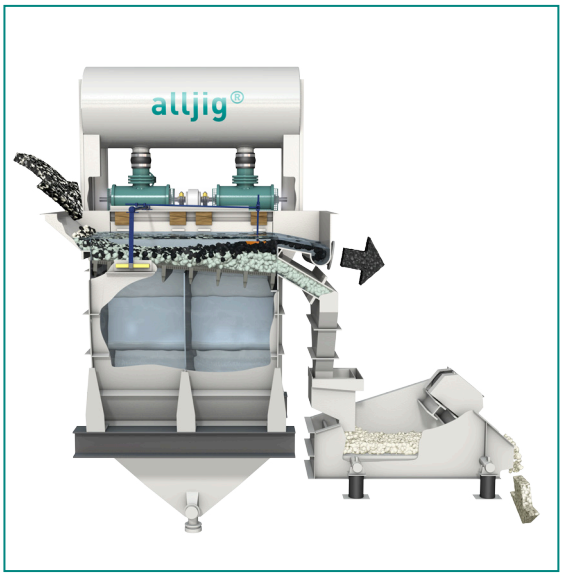
Bottom gate
grain size max. 25 mm (1“)



Vibrating feeder discharge



Vibrating feeder discharge



alljig® - GR
grain size max. 100 mm (4")

Areas of application

Ore beneficiation

In the field of ore processing high efficiency and high capacity systems are necessary for an economic production. **alljig®** jigging machines upgrade ores to marketable products in a single step, best examples are various installations for iron ore upgrading from low grade run of mine and/or dump ores.

The **allgauss®** wet high intensity magnetic separator offers high separation efficiency and enormous flexibility in the upgrading of hematite iron ores.

The **allflux®** - system is utilized for both ore upgrading as well as ore classification (desliming).

The **alljig®** and the **allflux®** can also reduce grinding costs in those cases, where a pre-separating of high density materials is possible.

Gravel and sand processing

For the separation of deleterious substances, such as organic matter *(wood, roots and lignite)* or alkali reactive particles *(opal, sandstone, chalk and flint)*, **alljig®** jigging machines are used to process gravel and/or sand in grain sizes of up to 100mm (4") down to 0mm.

The **allflux®** - system is used for the separation of organic particles from sand by means of fluidized bed sorting. Simultaneous automatic »On line« or »Off line« blending of coarse and fine sand products permits customized particle size distribution products.

With the **allgauss®** wet high intensity magnetic separator one can increase the quality of industrial sand by reducing the content of feebly magnetic impurities.

Recycling

Recycling materials, including rubble and excavated matter contain light components that limit or prohibit their utilization. **alljig®** jigging machines produce excellent quality products at high throughput rates. Acceptable feed sizes range up to 150mm (6") which can eliminate the need for hand sorting.

Sands containing impurities can be successfully sorted and fractionized by the **allflux®** fluidized bed separator.

The **allair®** - jig is the best choice for the dry separation of light components.

Slag beneficiation

The recovery of metal from slag with **alljig®** and **allflux®** systems contributes both to the best possible use of natural resources and to significant profitability benefits. Due to the required high specific gravities of separation, the **alljig®** is often the only economic option for recovering metal particles. Stainless steel, ferro-chrome and ferro-manganese and other valuable metals have been recovered with circuits employing allmineral equipment. At many plants, the separated slag can be sold as aggregate. Thus, two revenue streams are created from a discarded waste.

Hard Coal and Lignite processing

Sorting of hard coal is the classic application for **alljig®** and **allflux®** technologies. A special feature of the **alljig®** jigging machines is the compound stroke motion which extends the feed size range and capacity, when processing finer sized coal.

The **allflux®** - system allows beneficiation with a high capacity in a single unit.

The latest innovation for the separation of pyrite and rock from coal without the use of water is the **allair®** - jig.





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