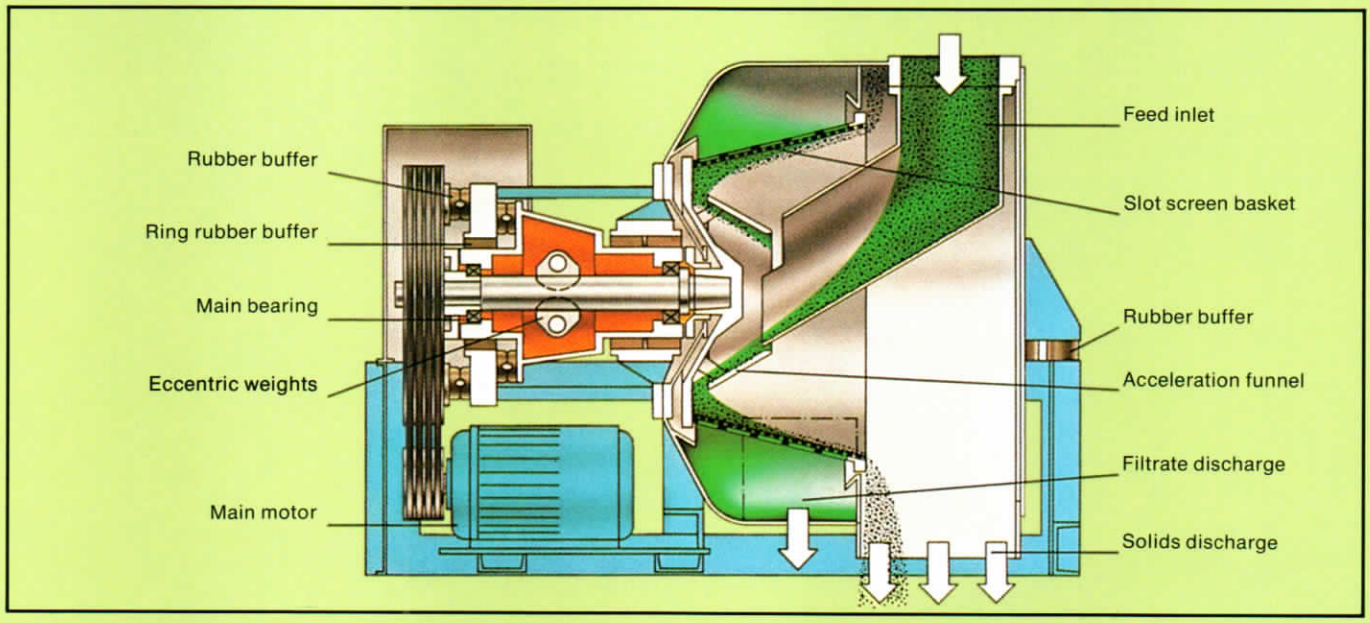
# Vibratory Screen Centrifuge HSG




## Description

The vibratory centrifuge is, as regards the throughput of solids, our most effective centrifuge. The transport of the solids over the sieve in the conically widening basket takes place by the cooperation between the inclination and the axial vibration of the basket. A pre-condition for a controlled sliding speed is that the angle of inclination is somewhat smaller than the slide friction angle of the product to be dewatered and that the axial vibration acceleration is sufficient to overcome the remaining difference in product. Since the vibration acceleration is kept within relatively narrow limits by the construction, vibratory centrifuges must, as a rule, operate with centrifugal forces under 120 g. Therefore they are used in the first place for coarse or other mass products which can be easily dewatered such as washed coal fines, middlings or fine rock in coal preparation, dissolving and washing sediments in Potassium preparation, sea salt, concrete sand etc.

## Construction

Screen basket, inlet pipe, shaft and bearing housing form the small mass of a vibration system which is coupled via rubber springs with the large mass, mainly consisting of a cross member and the product housing. The vibrations are generated by opposed off-centre weights in the resonance range somewhat less than the natural vibration, which requires a very low power consumption for the generation of very stable vibration behaviour. At a higher load of the machine, i.e. increase of the small mass by agglomeration of product in the basket, its own vibration figure falls and approaches in doing so the speed of the generator, in other words becomes more resonant. This automatically enlarges the amplitude and the conveying speed of the solids in the basket. The machine "works itself free", is therefore self-adjusting, and adapts itself trouble-free to fluctuations in the feed within a wide range.

The basket and the vibration generator are driven by 3-phase squirrel-cage motors via vee-belts. This makes it easy to adapt the speed to the operational conditions. The main motors and the oil container with pump for the lubrication circuit of all bearings are fixed to a base-frame which also carries the centrifuge vibration-free on rubber buffers. Like all our continuous centrifuges, the vibratory centrifuge can be installed even on higher storeys without heavy steadying masses.

## Materials of Construction

The profile wires of the wedge wire baskets are made of chrome steel. The inlet piece as well as the inlet pipe are made, as required, of wear- and/or corrosion-resistant materials. The product housing is made of carbon steel and can, if required, be delivered with rubber lining as well as with a special wear protection in the solids discharge housing.

## Standard executions

| Type | | HSL 600 | HSG 800 | HSG 1000 | HSG 1100 | HSG 1200 | HSG 1300 | HSG 1500 |
|---|---|---|---|---|---|---|---|---|
| Feed capacity[1]) | t/h | 20 | 50 | 100 | 150 | 180 | 250 | 350 |
| Drive motor | kW | 7.5 | 15 | 22 | 30 | 37 | 55 | 75 |
| Length L | mm | 1500 | 2070 | 2200 | 2400 | 2400 | 2900 | 3950 |
| Width B | mm | 1270 | 1650 | 1900 | 2000 | 2000 | 2230 | 2610 |
| Height H | mm | 1200 | 1425 | 1650 | 1770 | 1770 | 2040 | 2340 |
| Weight | about kg | 1000 | 2500 | 3400 | 3800 | 3900 | 7000 | 9000 |

[1]) The actual capacities depend on the properties of the material and their separation characteristics.

We reserve the right to make changes which serve technical progress.