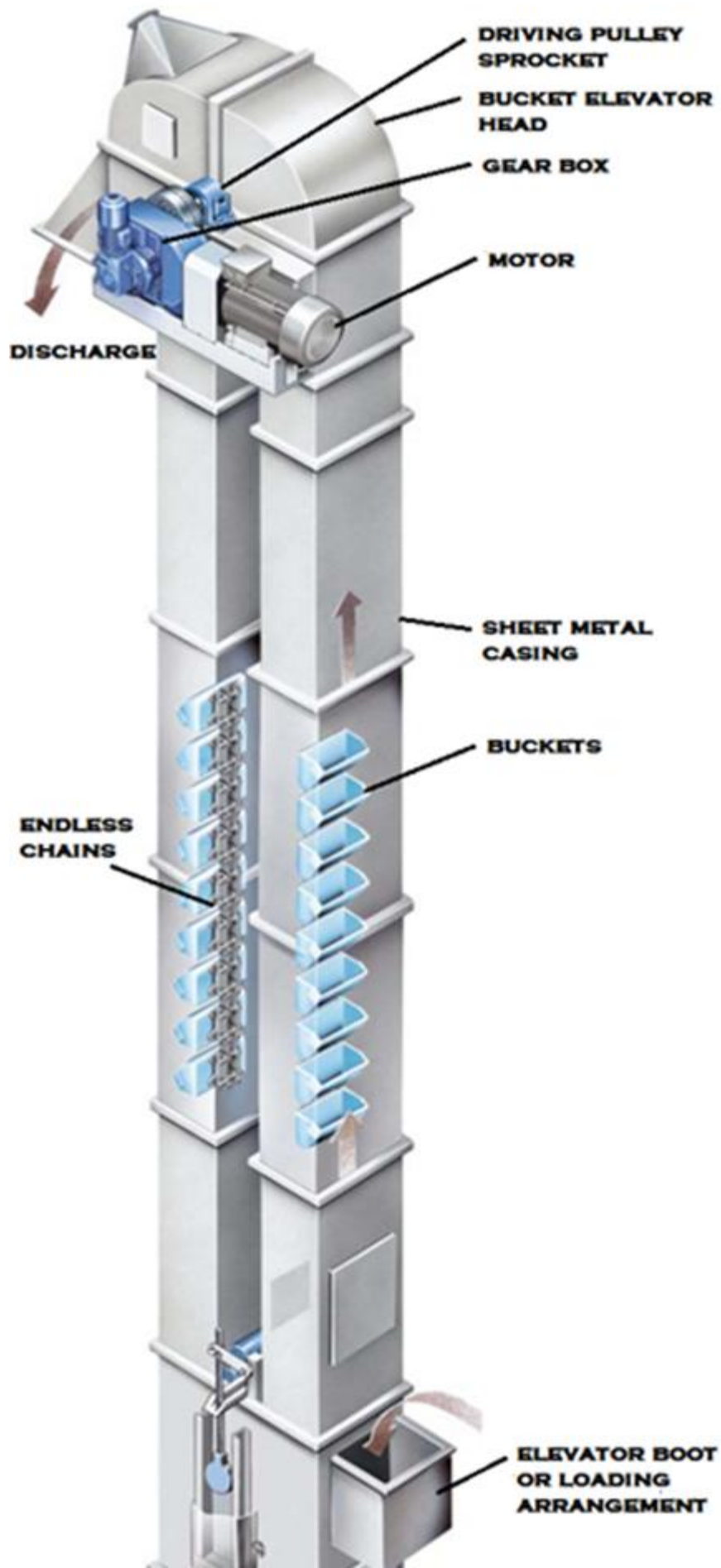


Industrial Bucket Elevators | Vertical Bucket Conveyors | Bucket Elevator Types

Types of bucket elevators:

Bucket elevators are classified into three types. They classified according to the bucket spacing and mode of discharge. They are:

1. Centrifugal Discharge elevators
2. Continuous Discharge elevators
3. Positive Discharge Elevators



Centrifugal Discharge Elevators:

In a centrifugal discharge elevator, buckets are fixed on to belt or chain at regular pitch to avoid interference in loading and discharge. This type of elevators is mostly vertical in operation and can handle practically any free flowing fine or small lumpy materials. The material is fed into the boot of the elevator and scooped up by the buckets as they pass round the bottom pulley or sprocket. The material is discharged by centrifugal force as the buckets pass over the head or sprocket.



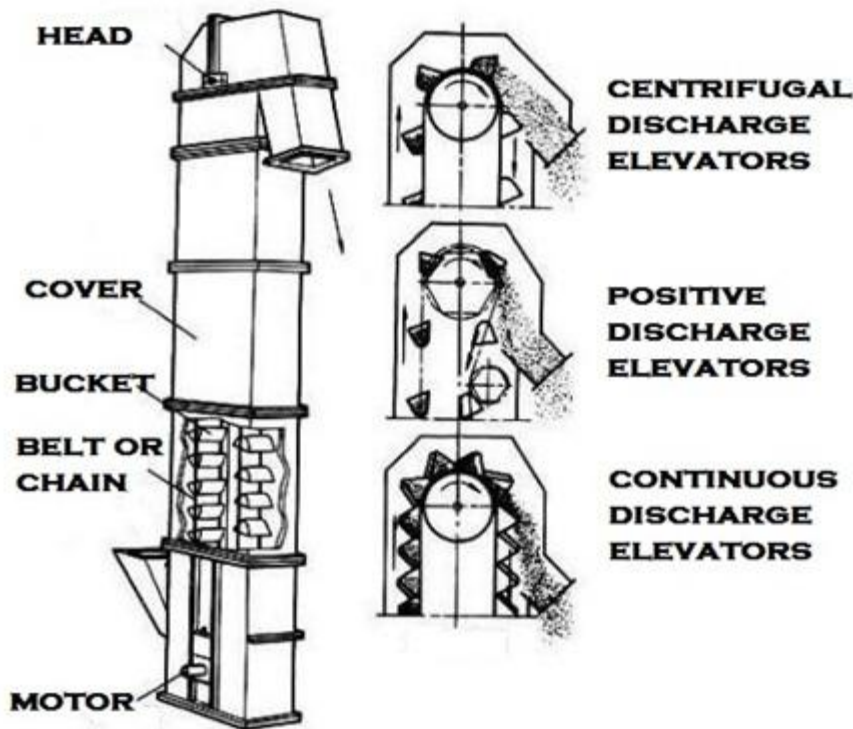
These elevators operate at higher speeds than other types. Speed range is 70 to 125 m/min.

In a centrifugal elevator buckets are loaded by the scooping of the buckets at the boot. Hence such elevators are used for relatively fine free flowing materials. Otherwise the buckets will be damaged frequently. Usually lump size larger than 50mm are not used for these types of elevators. On the

other hand, it is also necessary to check that the materials are not finer than 200 mesh size. (Materials finer than 200 mesh are often aerated and cause wastage and jamming problems.)

Applications:

1. Grain,
2. Coal,
3. Sand,
4. Clay,
5. Sugar and
6. Dry Chemicals.



TYPES OF BUCKET ELEVATORS

Continuous Discharge Elevator:

In a continuous discharge elevator, buckets are mounted without any gap on a chain or belt. This type of elevator often used for handling larger lumps of material that may be difficult to convey by centrifugal type. The buckets used with this type of elevator are given such a shape that the belt or chain passes over the head wheel, the flanged end of the preceding bucket acts as a chute to lead the material to the discharge spout. These elevators operate at a speed range of 30 to 50 m/min, which is much slower than that of the centrifugal discharge type. Continuous discharge elevators are

not fed by the scooping action of the buckets through the heap of material. A loading leg effects, feeding of material. The slow speed and gentle method of loading and discharging makes this type of elevator suitable for fragile, fluffy or pulverised materials. It can operate in the vertical or inclined condition.

Application:

1. Lime,
2. Cement and
3. Dry chemicals



Positive Discharge Elevators:

This type of elevators is similar to the centrifugal discharge elevator except for two distinguishing features. The buckets are spaced at regular pitch and mounted on two strands of chains, and are provided with a snub wheel under the head sprockets to ensure inverting of the bucket for complete discharge. The speed of the bucket is slow in the range of 35 - 40 m/min.

This type of elevators is used for handling light, fluffy, dusty and sticky materials. The feeding is done by the scooping or digging by the buckets.



Source:

<http://www.mechanicalengineeringblog.com/category/material-handling/bucket-elevator/>