



# HENAN EXCELLENT MACHINERY CO.,LTD

———— BULK MATERIAL HANDLING ————

A photograph of a large industrial facility featuring several tall, cylindrical silos with corrugated metal siding. Blue vertical structures, likely part of a chain bucket elevator system, run alongside the silos. Staircases and walkways are visible on the left side. The sky is clear and blue. The image is framed by several thick, grey diagonal lines that create a sense of depth and perspective.

**CHAIN BUCKET ELEVATOR**



# Company Profile

Henan Excellent Machinery Co., Ltd, specializing in bulk handling equipment, mainly manufactures Belt bucket elevator, Chain bucket elevator, Central chain bucket elevator, Z type bucket elevator.

EXCT occupies an area about 330,000 square meters, there are casting, rivet welding, metal-processing, assembly, heat treatment and other workshops, with oversized modern processing equipment and more than 80 large and medium-sized general equipment. All products adopt national standards and can be widely used in coal, mining, metallurgy, chemical, port, power, construction and lifting of bulk materials.

Our products sell well in more than 20 provinces across the China, and are exported to South America, Australia, Malaysia, South Africa and other international transportation markets, and enjoy good reputation among customers.



# NE Chain Bucket Elevator Profile

The NE series Bucket Elevator is introduced and developed by our company. As an advanced and mature vertical lifting equipment in China, it has been widely used to transport various bulk materials such as ore, coal, cement, cement clinker, grain, and fertilizer. Due to its high efficiency and energy saving, NE series bucket elevator has become the first choice, to industrial countries, for replacing chain bucket elevator such as HL and TH.

There are 11 kinds of model for NE series Bucket Elevator, such as NE15, NE30, NE50, NE100, NE150, NE200, NE300, NE400, NE500, NE600, NE800.

## NE Chain Bucket Elevator Feature

- ❖ Wide range of lifting: It can not only transport powdery, granular and bulk materials, but also transport the materials with high abrasiveness and materials with temperature less than 250 °C.
- ❖ Large conveying capacity: This series of buckets have various specifications from NE15 to NE800. The lifting amount ranges from 15 to 800 m.
- ❖ Long service life: Inflow feeding type; No material scattered during feeding, lifting and unloading; High-strength wear-resistant chain, which prolongs the service life of the chain and the chain bucket.
- ❖ Low driving power: Adopt inflow feeding, positive discharging. The large-capacity bucket is densely arranged, with low chain speed and large lifting capacity. When the material is lifted, there is no return material and excavating phenomenon, so the invalid power is small, and the theoretical calculation shaft power is about 45% of the chain bucket elevator.
- ❖ The lift height can be up to 40m.
- ❖ Well-performance sealing and less environmental pollution.
- ❖ Reliable operation: the advanced design principles ensure the reliability of the whole machine. The trouble-free time is over 30,000 hours.
- ❖ Convenient operation and maintenance, and less wearing parts.
- ❖ The whole machine has good rigidity and high precision, and the appearance is beautiful.
- ❖ Low operating cost: due to energy-saving and maintenance, the cost is low.

## Component of the NE Bucket Elevator

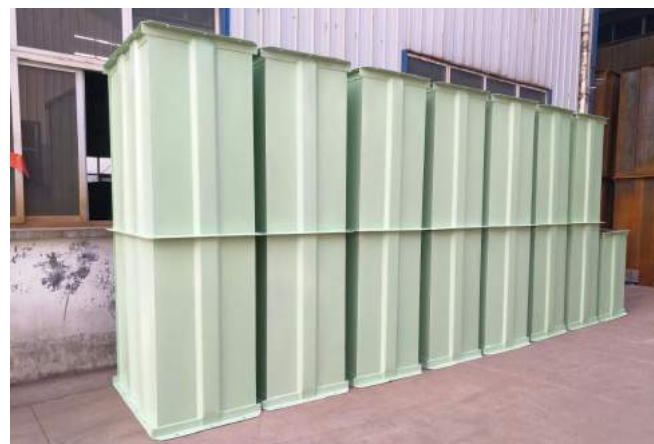


### Head Section Driving Device

The NE series bucket elevator head section driving device comprises the drive wheel with shaft and fluid coupling equipped with backstop device. Owing to the compact and flexible transmission structure, the operation of the motor, reducer and traction parts are well guaranteed.

### Middle Section

The whole elevator is covered by high-quality metal casing from the head, middle, and bottom section, all joined at flanges by fasteners. Without welding required, ensuring good sealing ability and no dust raised.







## Bottom Section

Fabricated of 3-5 mm thick plate steel, used to support the entire elevator. It consists of a feed port, a lower casing, quick opening inspection doors, a tension roller set and a tensioning device.

## Bucket Elevator Chain

NE series bucket elevator adopts high-strength wear-resistant chain, made of alloy steel by heat treatment means. Under normal continuous use, the service life of the conveyor chain is ensured for 3-5 years. The traction chain not only can lift the powdery and granular materials, but also can lift the abrasive material and the material up to 200 ° C.



## Elevator Bucket

Here are mainly steel buckets and high molecular polyethylene buckets, as well as shallow buckets, deep buckets, guide buckets, combination buckets, dewatering buckets, etc., which can be selected according to material characteristics and unloading methods.

## NE Bucket Elevator Specifications

Model	Handling Capacity/(m <sup>3</sup> /s)	Speed/(m/s)	Mainshaft Speed/(r/min)	Bucket			Operating component quality/(kg/m)
				Volume/L	Bucket Width/mm	Bucket Space/mm	
NE15	15	0.5	15.54	2.5	250	203	27.5
NE30	32		16.45	7.8	300	305	35
NE50	60		16.45	15.7	300	305	64
NE100	110		14.13	35	400	400	89
NE150	170		14.13	52.2	600	400	112.3
NE200	210		10.9	84.6	600	500	134
NE300	320		10.9	127.5	600	500	188
NE400	380		8.3	182.5	700	600	205
NE500	470		7.1	260.9	700	700	223
NE600	600		7.1	330.2	700	700	274
NE800	800		6.2	501.8	800	800	313

# NE Bucket Elevator Case

## NE50-30 Bucket Elevator for Hebei Guohua Dingzhou Power Generation Co., Ltd

### 2rd phase two supercritical boiler slagging system

Conveying Material: Slag  
Material Temperature:  $\leq 250^{\circ}\text{C}$

Handling Capacity: 50 t/h  
Lifting Height: 25.7m

Bulk Density:  $1.0\sim 3.0\text{ t/m}^3$   
Time: March, 2011



Hebei Guohua Dingzhou Power Generation Co., Ltd 2rd phase two supercritical boiler slagging system, the maximum output of the bucket elevator of the second-stage dry slag machine system is 30t/h.

The bottom ash is increased, since the maximum ash generated by the boiler is 45 t/h is more than the theoretical value. Therefore, the two bucket elevators can not only be operated at the same time. It lead to the overall equipment has poor working performance. Also the dust leakage is not conducive to the stable operation.

The design height of the original bucket elevator is 27.7 meters, and the angle between the outlet pipe and the slag bin plane is  $60^{\circ}$ . It is difficult to reinforce according to the actual position of the site, due to the large shaking of the top platform of the original bucket elevator. In this transformation, it is considered to reduce the height of the bucket elevator by 2 meters, the transformed height is 25.7 meters, and the angle between the outlet pipe and the slag bin plane is  $50^{\circ}$ . After verifying with the original design, the plane angle of the outlet pipe and the slag bin should be greater than  $30^{\circ}$ , which does not affect slagging.

After the modification of the NE bucket elevator, the production output is larger than the original model, and the maintenance of the equipment reduces a lot.

## Anhui Liuguo Cement Co., Ltd NE150\*25.95m Bucket Elevator

Elevate Material: Cement  
Chain Speed: 46m/min

Lifting Height: 25.95m  
Bulk Density:  $2.8\sim 3.1\text{t/m}^3$

Handling Capacity:  $170\text{m}^3/\text{h}$   
Time: May, 2018

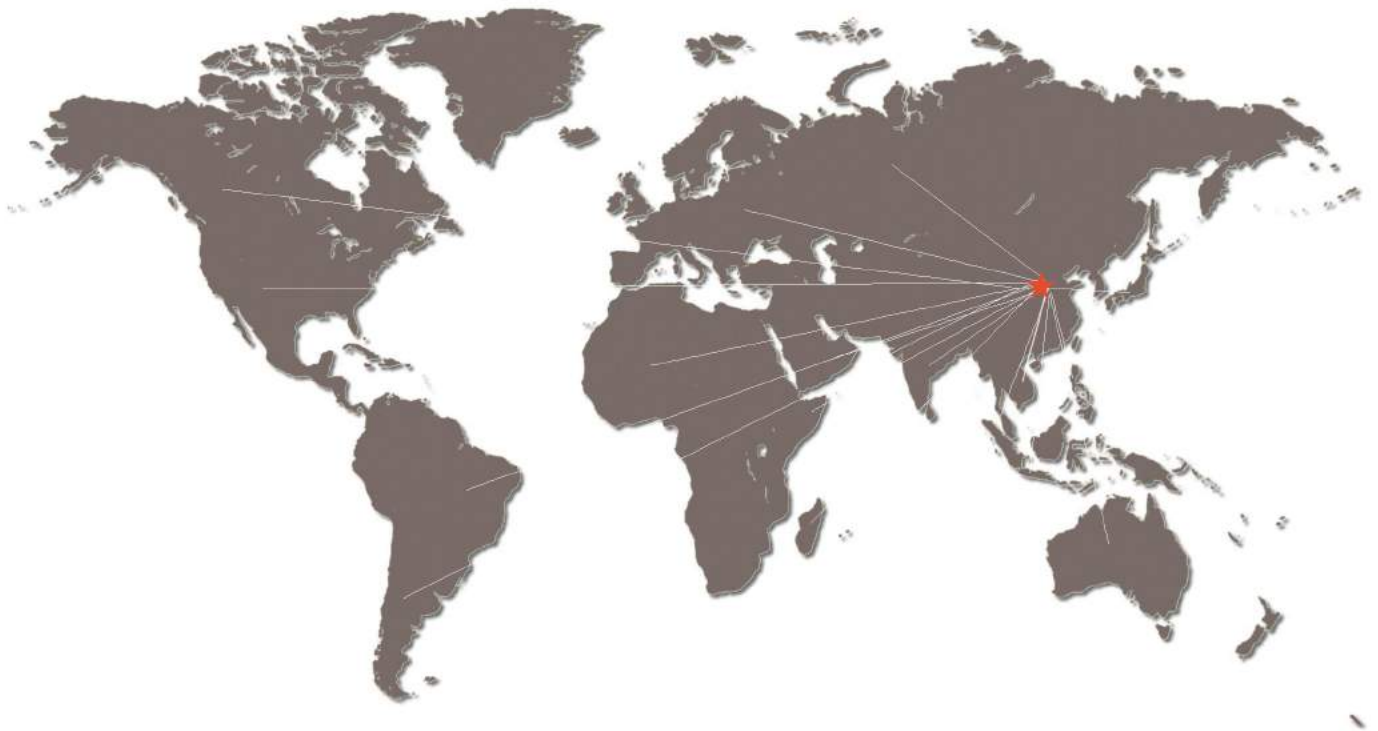


Anhui Liuguo Cement Co., Ltd has a NE150X25.95m bucket elevator with capacity of  $150\text{m}^3/\text{h}$ , which is used to transport the limestone mixture. Due to the increasing need for production capacity, the handling capacity of the bucket elevator is required to reach  $170\text{m}^3/\text{h}$ . On the basis of retaining the original casing, EXCT has carried out technical transformation.

Retaining the original casing means that, only change the chain speed to increase throughput. Since the NE150 sprocket has 11 teeth, the chain pitch is 200mm. According to the chain drive theory, the maximum speed can only reach 35m/min. Otherwise, the equipment cannot run normally. Only by changing the sprocket to a multi-tooth and small pitch form, which chain speed can increase.

After the improvement of the head wheel, chain, motor, the delivery volume of the NE bucket elevator meets the requirements of the factory. After more than one year of use, no faults occur, the performance of bucket elevator is stable and reliable, and it is highly evaluated by users.





EXCT committed to be the best supplier in the world



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