

WE CONVEY QUALITY



# BUCKET ELEVATORS



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## AUMUND Bucket Elevators

Throughout more than 85 years of industrial construction, AUMUND has been a trendsetter in conveying technology and offers products of high technical standard and solutions for a variety of applications wherever conveying and storing of bulk materials is required.

AUMUND expertise is acknowledged by customers in all major industries and more than 100 countries.

Availability, service life and low operating costs are key issues for the plant operator.

AUMUND Bucket Elevators, tailor made and continuously developed to suit ever increasing plant and process requirements, offer this availability combined with performance, flexibility and service life.

With their proven quality, strength and reliability AUMUND Bucket Elevators have become a synonym for efficient vertical transport of any kind of bulk material under severe operating conditions and in continuous operation.

- **Lime stone**
- **Aggregates**
- **Clinker**
- **Slag**
- **Cement**
- **Gypsum**
- **Coal**
- **Ores**
- **Flyash**
- **Raw meal**
- **etc.**





Bucket Elevator  
for cement silo  
feeding

## **BUCKET ELEVATOR WITH CENTRAL CHAIN TYPE BWZ**

The prominent features of the AUMUND Bucket Elevator type BWZ are the forged central chain and a close bucket spacing. The bulk material is fully taken by the buckets and discharged in a continuous manner to the subsequent conveying systems.

The forged chains feature labyrinth seals and a lubricated bolt and bush connection. The symmetrical design of the chain links, which are fabricated from high-quality forgings, contributes to a long service life.

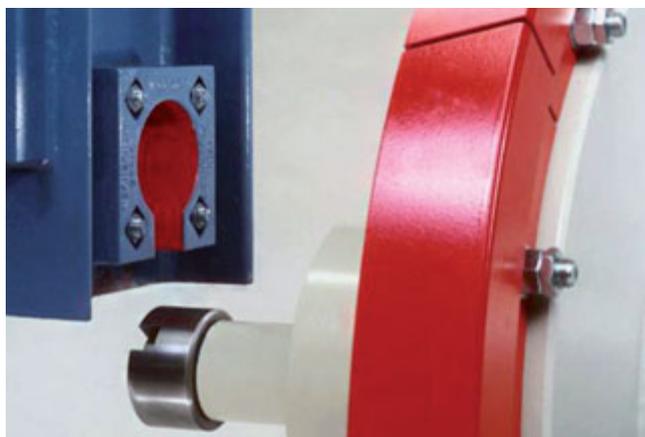
The buckets are fixed to the chain by means of brackets connected with the chain bolt in a loose fitting. Transmission of vibrations is considerably reduced and the mounting of buckets is simple and easy.



Central chain with bracket



Drive ring supporting chain bush and links



Tension wheel bearing

**Characteristic Features of AUMUND Bucket Elevators with Central Chain**

- **Conveying capacities exceeding 900 m<sup>3</sup>/h**
- **Lifting heights to 90 m**
- **Forged central chain with large link surface (AU06 - AU15)**
- **Angular brackets for easy bucket fixing (AU04 - AU15)**
- **Segmented drive ring**
- **Assembly casing for easy access**
- **Outstanding service life – in continuous operation**
- **Low maintenance**
- **High degree of availability**

**Central Chains for Type BWZ and BWZ-D**

Type	Chain pitch (mm)	Breaking load (KN)
AU01	140.0	400
AU02	152.4	540
AU04	177.8	800
AU06	177.8	1,200
AU13	177.8	1,500
AU15	177.8	1,800

The chain tensioning box consists of the guide frame and the tail shaft with integrated tension weight.

AUMUND uses the anti-friction bearing concept with benefits in both life and ease of maintenance.



Bucket Elevator Type BWZ handling pozzolana and limestone



Bucket elevator head with single drive

### Bucket Elevator with Central Chain Type BWZ – High Capacities

The indicated conveying capacities correspond to a 100% bucket filling (water filling)

Bucket				Drive Ring ø (mm)			
				790	1,005	1,115	1,215
Width (mm)	Pro-trusion (mm)	Volume (dm <sup>3</sup> )	Spacing (mm)	Speed (m/s)			
				1.39	1.56	1.72	1.87
Calculated Capacity (m <sup>3</sup> /h)							
400	320	18.0	355.6	253	284	313	341
450	320	20.3	355.6	286	320	354	384
500	320	22.7	355.6	319	359	395	430
560	320	25.5	355.6	359	403	444	483
630	320	28.8	355.6	405	455	502	545
710	320	32.5	355.6	457	513	566	615
800	320	36.7	355.6	516	580	639	695
900	320	41.4	355.6	583	654	721	784
1,000	320	46.1	355.6	649	728	803	873
1,100	320	50.8	355.6	715	802	885	962
1,200	320	55.5	355.6	781	876	966	1,051

AUMUND Bucket Elevators with central chain are the ideal solution to raise granular, coarse and abrasive materials.

With bucket widths ranging from 200 mm to 1200 mm they can handle a broad scope of conveying capacities up to more than 900 m<sup>3</sup>/h.

All AUMUND Bucket Elevators feature a large assembly casing with easy access.



Assembly casing with hinge-supported door for easy maintenance

### Bucket Elevator with Central Chain Type BWZ – Low to Medium Capacities

The indicated conveying capacities correspond to a 100% bucket filling (water filling)

Bucket				Drive Wheel (mm)			
				600	655	730	
Width (mm)	Pro-trusion (mm)	Volume (dm <sup>3</sup> )	Spacing (mm)	Speed (m/s)			
				1.15	1.26	1.40	
					Calculated Capacity (m <sup>3</sup> /h)		
200	210	3.9	280	57			
200	210	3.9	560	29			
250	210	4.7	280	64			
250	210	4.7	560	32			
280	210	5.3	280	78			
280	210	5.3	560	39			
280	250	7.3	305		109	121	
280	250	7.3	610		54	60	
315	210	6.0	280	89			
315	210	6.0	560	44			
315	250	8.3	305		124	137	
315	250	8.3	610		63	69	
355	210	6.7	280	99			
355	210	6.7	560	50			
355	250	9.4	305		140	156	
355	250	9.4	610		70	78	
400	210	7.6	280	112			
400	210	7.6	560	56			
400	250	10.6	305		158	175	
400	250	10.6	610		79	99	
450	250	12.0	305		179	199	
450	250	12.0	610		89	99	



Head of Double Bucket Elevator

## DOUBLE BUCKET ELEVATOR TYPE BWZ-D

Higher kiln capacities and consequently new grinding processes in the cement industry require Bucket Elevators with conveying capacities of more than 1,800 m<sup>3</sup>/h.

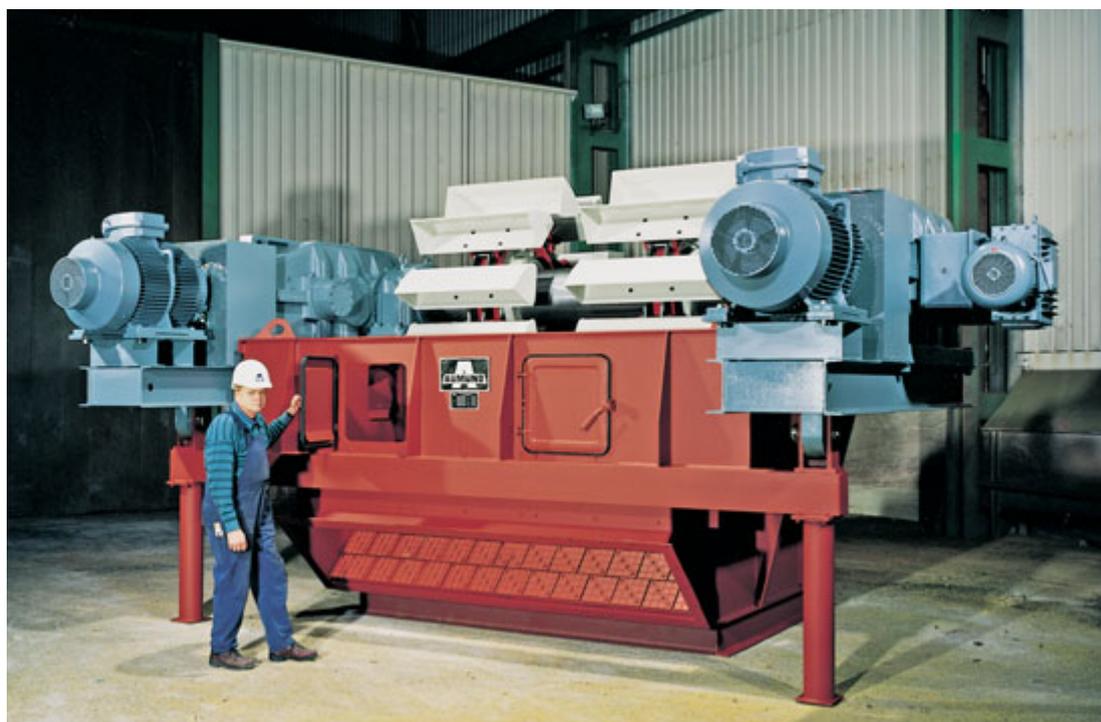
AUMUND meets these latest requirements with the Double Bucket Elevator Type BWZ-D. By combining two standard Bucket Elevators with central chain, the conveying capacity can be doubled.

The drive head illustration shows the two bucket strands on a common drive shaft, which is supported in pillow-block bearings. Twin drives are installed in order to provide the high drive power required.

The two bucket strands are arranged in one and the same casing. The chutes in the feeding area direct the material to the bucket strands by way of a material flow divider.



Head with double drive and two strands



**Double Bucket Elevator Type BWZ-D**

The indicated conveying capacities correspond to a 100% bucket filling (water filling)

<b>Bucket</b>				<b>Drive Ring <math>\varnothing</math> (mm)</b>			
				790	1,005	1,115	1,215
<b>Width (mm)</b>	<b>Pro-trusion (mm)</b>	<b>Volume (dm<sup>3</sup>)</b>	<b>Spacing (mm)</b>	<b>Speed (m/s)</b>			
				1.39	1.56	1.72	1.87
<b>Calculated Capacity (m<sup>3</sup>/h)</b>							
500	320	45.4	355.6	639	717	791	860
560	320	51.0	355.6	718	805	888	966
630	320	57.6	355.6	811	910	1,003	1,090
710	320	65.0	355.6	915	1,027	1,132	1,231
800	320	73.4	355.6	1,033	1,159	1,278	1,390
900	320	82.8	355.6	1,165	1,308	1,442	1,568
1,000	320	92.2	355.6	1,297	1,456	1,606	1,746
1,100	320	101.6	355.6	1,430	1,605	1,769	1,923
1,200	320	111.0	355.6	1,562	1,753	1,933	2,101



Belt Bucket Elevators handling raw meal

## BELT BUCKET ELEVATOR TYPE BWG

Outstanding features of the AUMUND Belt Bucket Elevators are high lifts and conveying capacities. These high-performance bucket elevators are designed for continuous operation with low maintenance requirements.

All drive pulleys feature exchangeable friction linings. The segments can be easily exchanged without opening the belt.

In the elevator boot a bar-type drum ensures the guided return of the belt. Precise parallel guidance is obtained with the parallel tensioning device.

The bucket design and the close bucket spacing are proven assets allowing continuous material take-up and discharge.

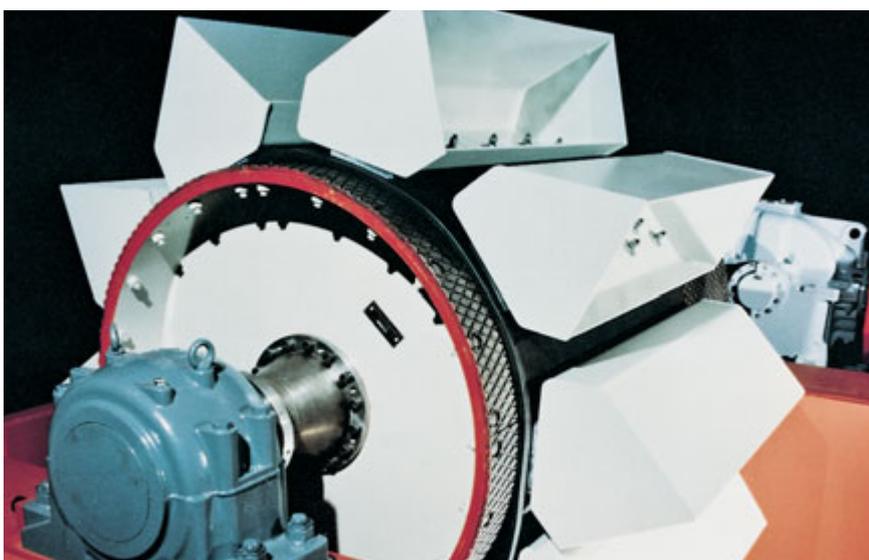
The buckets are fastened to the elevator belt with flat head screws of special design engaging in the longitudinal and cross steel cords. Utmost resistance to tearing is thus guaranteed for the buckets. Rubber strips are fitted between bucket and belt.



Pre-heater feeding

**Characteristic Features of AUMUND Belt Bucket Elevators**

- **Lifting heights to 175 m**
- **Conveying capacities exceeding 1,850 m<sup>3</sup>/h**
- **Accepting permanent bulk material temperatures to 130° C**
- **Continuous material take-up and discharge due to the close bucket spacing**
- **Straight running belt**
- **Compact buckets with close spacing**
- **High tensile strength of the steel-reinforced belts with longitudinal and cross ropes**
- **Segmented friction linings on all drive pulleys**
- **Assembly casing with large doors and easy access**
- **Outstanding service life in continuous operation**
- **High degree of availability**



Drive drum with friction lining



Bucket strand with close bucket spacing



Elevator boot with parallel tensioning device

### Steel-reinforced belt

With their low thickness, the belts allow to use smaller pulley diameters. Depending on the strength class, longitudinal ropes with a diameter of 3.1 up to 5.4 mm and arranged at a distance of 4.75 to 8.8 mm are applied as traction elements. Together with the additional cross ropes, they form a rigid network structure ensuring the high resistance to tearing of the bucket fixation screws. Depending on the strength class, the cross ropes are either provided on one or on both sides.

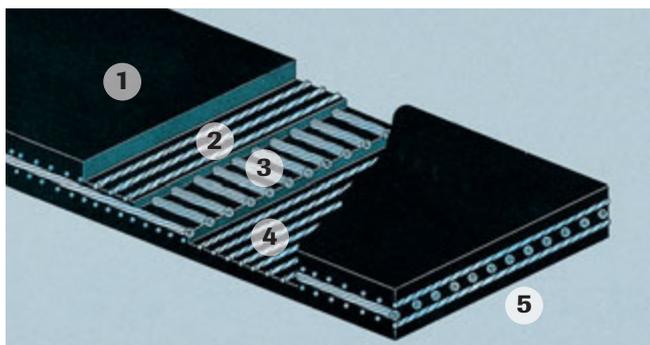
### Belt splicing

Belt splicing is made by clamping the steel ropes in a casting compound box. The rope ends are connected by means of clamps and then cast with a special casting compound. This ensures reliable splicing with no chance for the belt ends to escape

### Belt Bucket Elevator Type BWG – High Capacities

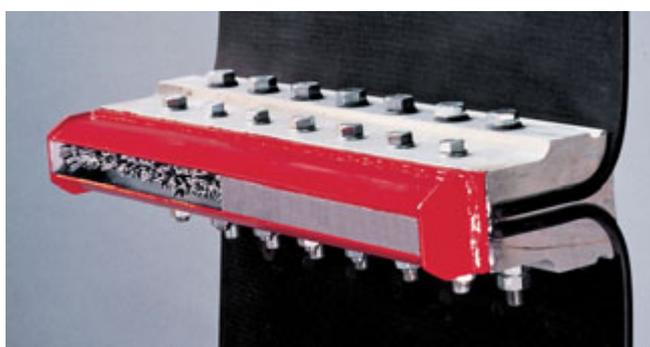
The indicated conveying capacities correspond to a 100% bucket filling (water filling)

Bucket					Bucket Spacing (mm)						
					320	360	400	440	480	520	560
Width (mm)	Pro-trusion (mm)	Volume (dm <sup>3</sup> )	Speed (m/s)	Pulley ø (mm)	Theoretical Capacity (m <sup>3</sup> /h)						
400	280	14.0	1.38	800	217	193	174				
500	280	17.6	1.38	800	273	243	218				
500	320	22.6	1.54	1,000		348	313				
630	320	28.6	1.54	1,000		440	396	360	330		
800	320	36.5	1.54	1,000		562	506	460	422		
630	320	28.6	1.72	1,125		492	443	403	369		
800	320	36.5	1.72	1,125		628	565	514	471		
630	360	36.0	1.72	1,125			557	506	464		
800	360	46.0	1.72	1,125			712	647	593		
1,000	360	57.1	1.72	1,125			884	804	737	680	
1,250	360	71.6	1.72	1,125			1,108	1,007	923	852	
800	360	46.0	1.91	1,250			790	718	658	608	
1,000	360	57.1	1.91	1,250			982	893	818	755	
1,250	360	71.6	1.91	1,250			1,230	1,118	1,025	946	
1,600	360	93.0	1.91	1,250			1,599	1,454	1,333	1,230	
800	400	54.9	1.91	1,250				858	787	726	
1,000	400	69.0	1.91	1,250				1,078	988	912	
1,250	400	86.6	1.91	1,250				1,353	1,240	1,145	
1,400	400	97.2	1.91	1,250				1,519	1,392	1,285	1,194
1,600	400	111.3	1.91	1,250				1,739	1,594	1,471	1,366
1,800	400	125.0	1.91	1,250				1,956	1,794	1,656	1,537
2,000	400	140.0	1.91	1,250				2,174	1,993	1,839	1,708

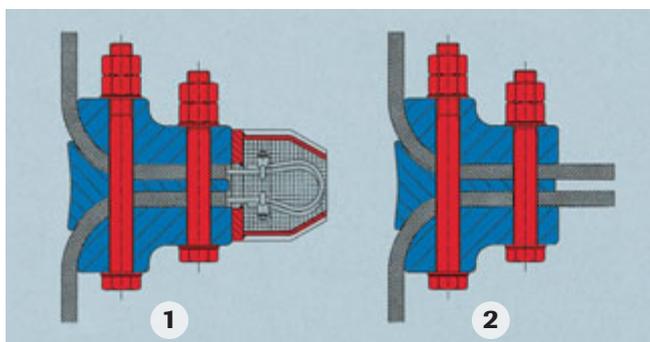


**Belt construction**

1 Upper cover – carrying side, 2 Upper cross rope, 3 Longitudinal rope (traction element), 4 Bottom cross rope, 5 Bottom cover – backing



**Belt splicing**



**Belt clamp connection**

1 Steel-reinforced belt, 2 Textile belt

**Low to medium capacity Belt Bucket Elevators**

Same as the Central Chain Bucket Elevator, the Belt Bucket Elevator is available for smaller capacities either with the steel-reinforced belt or with a textile belt.



Bucket Elevator for low to medium capacities

**Belt Bucket Elevator Type BWG – Low to Medium Capacities**

The indicated conveying capacities correspond to a 100% bucket filling (water filling)

Bucket	Width (mm)	Pro-trusion (mm)	Volume (dm <sup>3</sup> )	Speed (m/s)	Pulley ø (mm)	Bucket Spacing (mm)		
						280	320	360
						Theoretical Capacity (m <sup>3</sup> /h)		
	250	220	5.2	1.25	630	84	73	65
	315	220	6.6	1.25	630	106	93	83
	355	220	7.4	1.25	630	119	104	93
	400	220	8.4	1.25	630	135	118	105



Splicing of steel-reinforced belt

## CONVERSIONS AND REFURBISHMENTS

- **Upgrading of existing plant components**
- **Targeting increased efficiency**
- **Higher output**
- **Improved availability**

With our expert team of engineers planning selective modernisation measures, we pay special attention to the upgrading of existing plant components, targeting increased efficiency, higher output rates and improved availability.

Upgrading of your materials handling and storage equipment to state-of-the-art technology is achieved through a tailor-made refurbishment process under optimum utilisation of time and budget.

Most of the existing components are re-used in the refurbishment process to save cost.

Engineered conversions and refurbishments for increased efficiency and output are performed on AUMUND equipment as well as on the equipment of other manufacturers.

## AFTER-SALES SERVICES

### Customer Proximity around the World

At AUMUND, service does not end at the sale of the equipment. It's the beginning of a long-term partnership. AUMUND offers you a full range of services – from commissioning to the delivery of quality spare and wear parts to customized preventive maintenance programs and equipment upgradings. The benefits for you: Maximum equipment efficiency at lower operating costs.

### Commissioning and Field Service

Today, presence “on the spot” is an absolute “must”. Therefore, our commissioning and service engineers operate from support centers on all continents to guarantee immediate and competent support.

### Spare and Wear Parts

A comprehensive range of genuine spare parts is available for our entire product range from stocks in Germany, Great Britain and the USA. Our product specialists provide assistance and respond instantly.

### Retrofits

Aged and worn equipment? Capacity increase needed? Too high operating cost? Aumund “just as new” retrofits are economical and tailor-made solutions for improving your existing equipment at reasonable cost.

### Preventive Maintenance

Knowing beforehand that service will be needed allows you to schedule downtime and save money with timely repairs. Repairs or retrofits can be accurately anticipated allowing for the downtime to be at the most convenient times and at the lowest possible cost.



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## **AUMUND GROUP**

Your partner for all requirements regarding material handling and storage.  
We design, engineer, manufacture, erect and service reliable equipment.  
Reputation and competence proven by more than 10,000 installations in over 100 countries.

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