



Bucket Elevators



CONTENT

2	AUMUND Bucket Elevators
----------	-------------------------

4	Bucket Elevator with Central Chain Type BWZ
----------	--

8	Double Bucket Elevator Type BWZ-D
----------	--------------------------------------

10	Belt Bucket Elevator Type BWG
-----------	----------------------------------

14	Conversions and Refurbishments
-----------	--------------------------------

15	After Sales & Field Services
-----------	------------------------------

AUMUND Bucket Elevators

Throughout more than 90 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 in more than 100 countries.

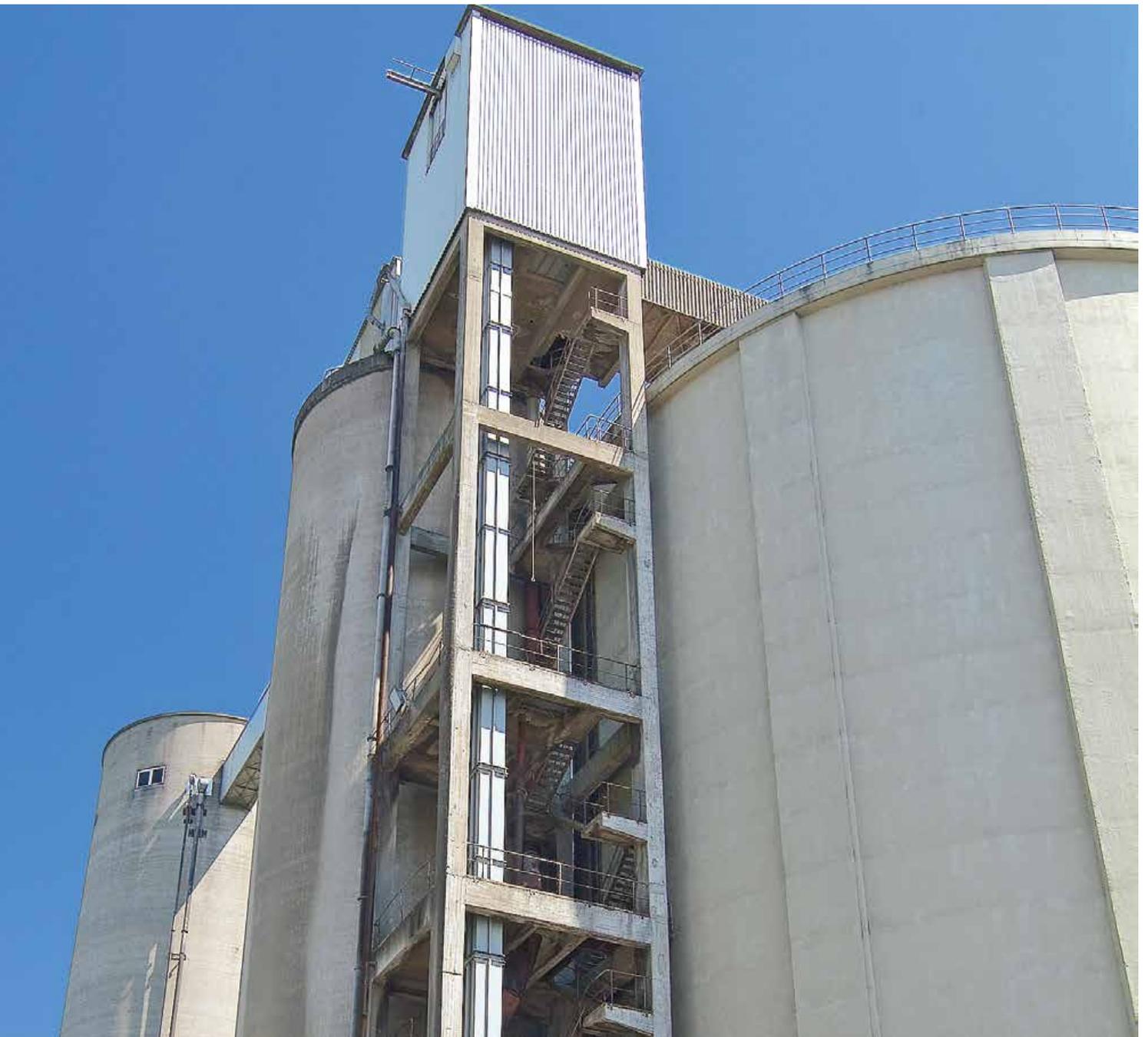
Availability, service life and low operating costs are key issues for the plant operator.

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.

- Limestone
- Aggregates
- Clinker
- Slag
- Cement
- Gypsum
- Coal
- Ores
- Fly ash
- Raw meal
- others





Bucket Elevator for cement silo feeding

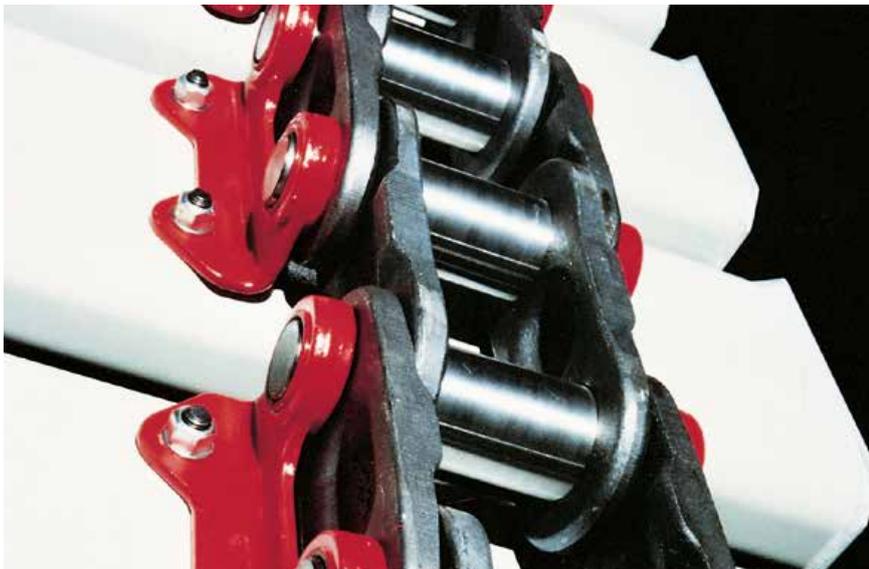
Bucket Elevator with Central Chain Type BWZ

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 brackets

Characteristic features of AUMUND Bucket Elevators with Central Chain

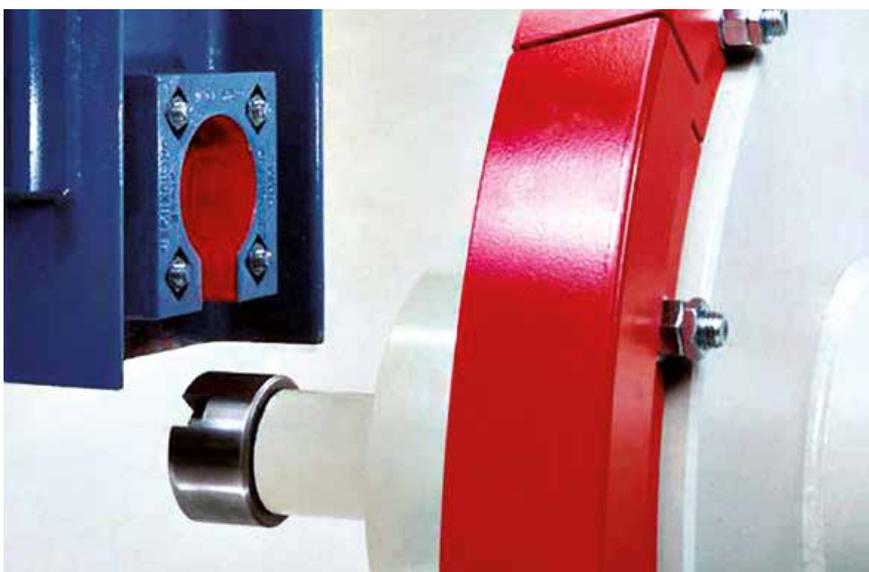
- Conveying capacities exceeding 1,100 m³/h
- Lifting heights to 90 m
- Forged central chain with large link surface (AU06 - AU19)
- Angular brackets for easy bucket fixing (AU04 - AU19)
- Segmented drive ring
- Assembly casing for easy access
- Outstanding service life - in continuous operation
- Low maintenance
- High degree of availability



Drive ring supporting chain bush and links

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
AU19	200.0	2,450



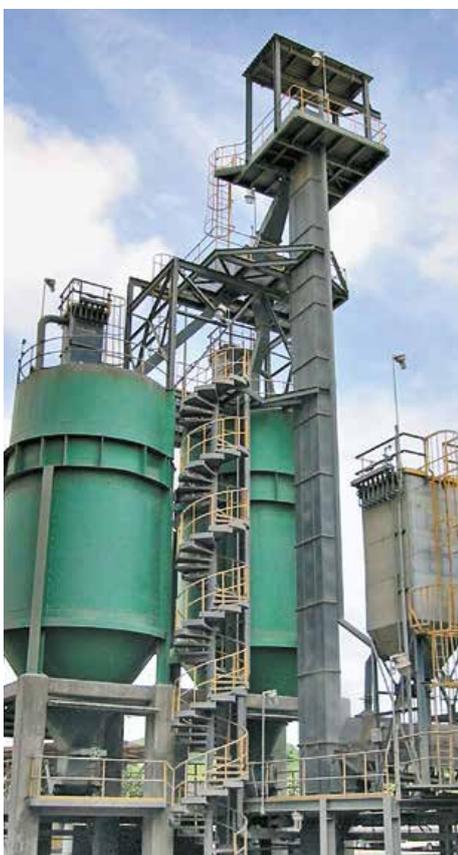
Tension wheel bearing

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 head with single drive



Bucket Elevator Type BWZ handling puzzolana and limestone

Bucket Elevator with Central Chain Type BWZ – High Performance Elevators

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 ³]	Spacing [mm]	Conveying speed [m/s]				
				1.40	1.60	1.77	1.92	
				Conveying capacity [m ³ /h]				
400	320	18.80	AU 04	266	305	337	365	
450		21.10		299	342	378	410	
500		23.50		AU 06	333	381	421	457
560		26.30		AU 13	373	426	471	511
630		29.60	AU 15	420	480	531	576	
710		33.40	355.6	473	541	598	649	
800		37.60		533	609	674	731	
900		42.30		600	686	759	823	
1,000		47.00		666	761	842	913	
1,100		51.70		733	838	927	1,005	
1,200		56.40		800	914	1,011	1,097	



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

With bucket widths ranging from 210 mm to 1,200 mm they can handle a broad scope of conveying capacities up to more than 1,100 m³/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 Duty

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

Bucket

Width [mm]	Protrusion [mm]	Volume [dm ³]	Spacing [mm]	Drive Ring [ø mm]	Conveying speed [mm]	Max. Capacity [m ³ /h] 100 %
210	250	5.50	AU 01	600	1.23	87
250		6.55				104
280		7.33				116
315		8.25				130
355		9.30				147
400		10.50				166
315	250	9.33	AU 02	730	1.49	164
355		10.50				185
400		11.80				208
450		13.30				234
500		14.80				260



Head of Double Bucket Elevator

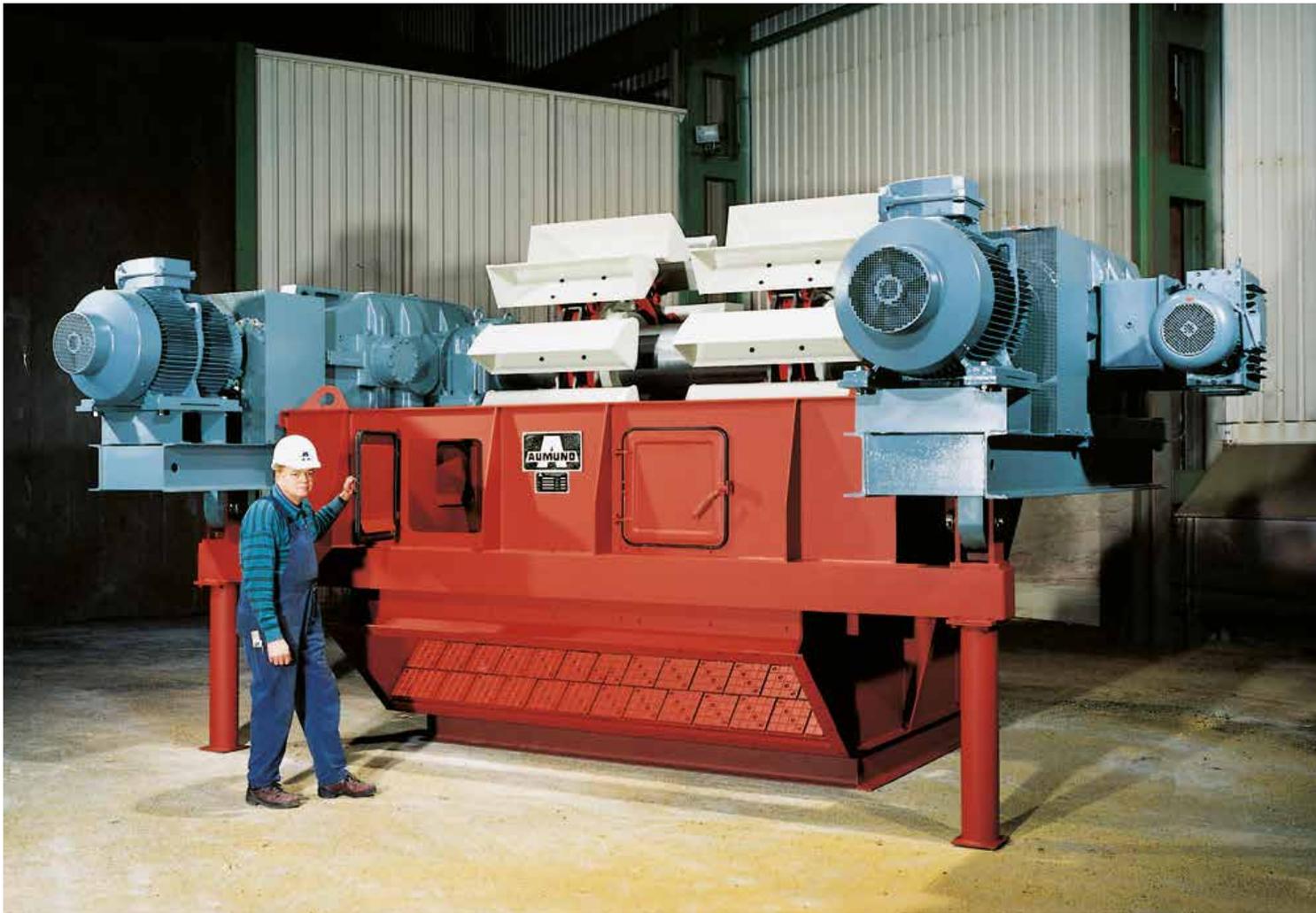
Double Bucket Elevator Type BWZ-D

Higher kiln capacities and consequently new grinding processes in the cement industry require Bucket Elevators with conveying capacities of more than 2,200 m³/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.

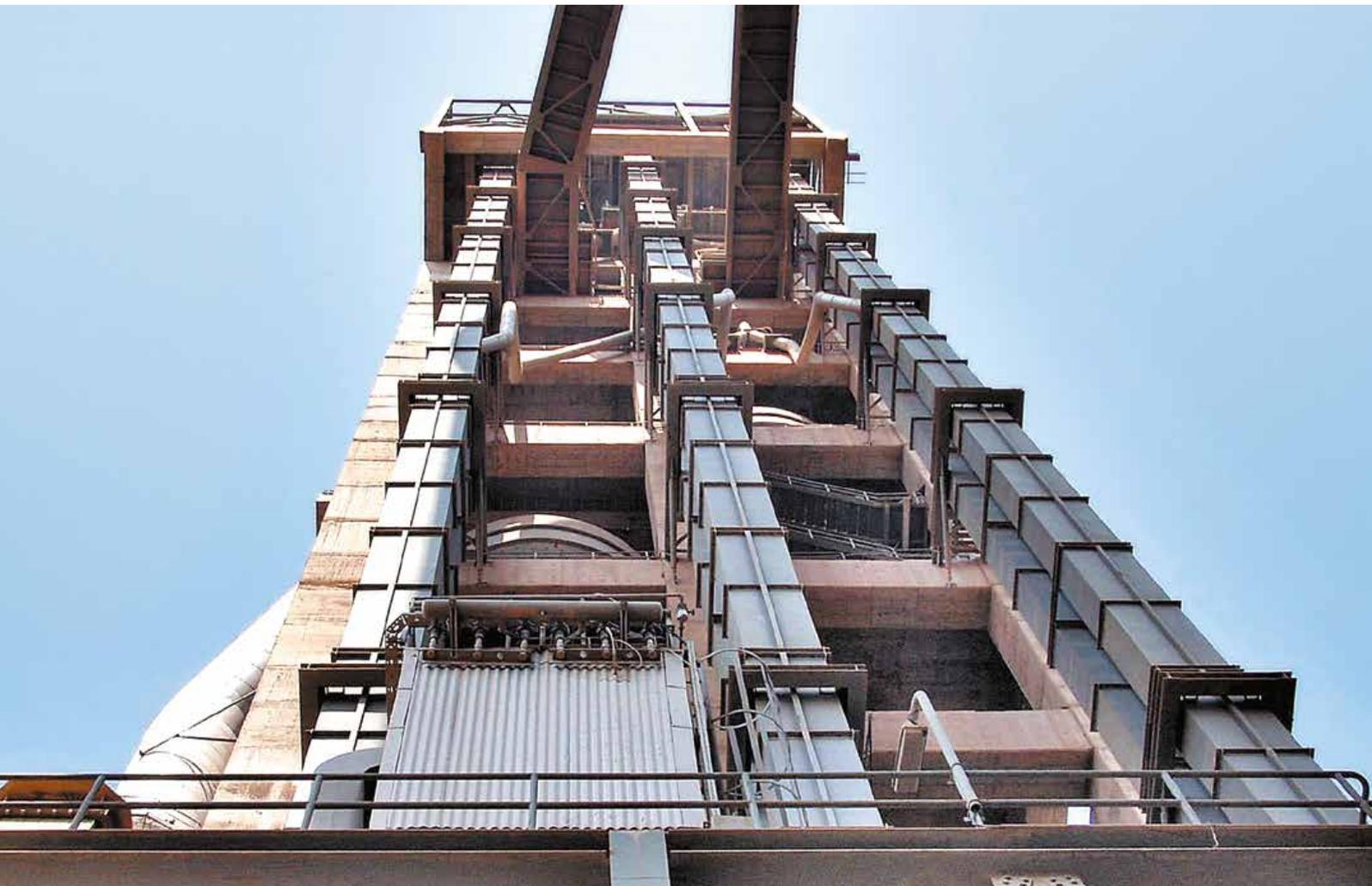


Head with double drive and two strands

Double Bucket Elevator Type BWZ-D – High Performance Elevators

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

Bucket				Drive Ring ø [mm]				
Width [mm]	Protrusion [mm]	Volume [dm³]	Spacing [mm]	790	1,005	1,115	1,215	
				Conveying speed (m/s)				
				1.40	1.60	1.77	1.92	
				Conveying capacity (m³/h)				
400	320	18.80	AU 04	532	610	674	730	
450		21.10		598	684	756	820	
500		23.50		AU 06	666	762	842	914
560		26.30		AU 13	746	852	942	1,022
630		29.60		AU 15	840	960	1,062	1,152
710		33.40	355.6	946	1,082	1,196	1,298	
800		37.60		1,066	1,218	1,348	1,462	
900		42.30		1,200	1,372	1,518	1,646	
1,000		47.00		1,332	1,522	1,684	1,826	
1,100		51.70		1,466	1,676	1,854	2,010	
1,200	56.40	1,600	1,828	2,022	2,194			



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.

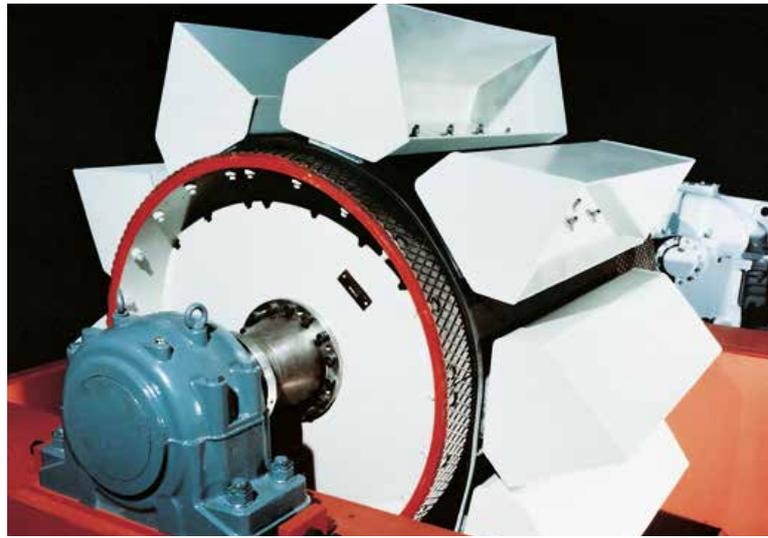
In the elevator boot a bar-type drum ensures the guided return of the belt. Precise parallel guidance is obtained with the parallel tensioning device.

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

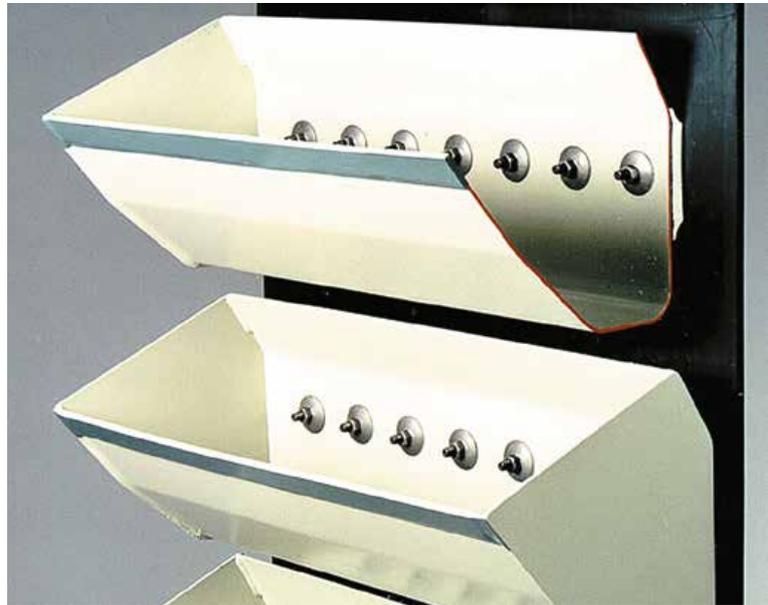
The buckets are fastened to the elevator belt with flat head screws of special design engaging in the longitudinal and cross steel cords. Utmost resistance to tearing is thus guaranteed for the buckets. Rubber strips are fitted between bucket and belt.



Preheater feeding



Drive drum with friction lining



Bucket strand with close bucket spacing

Characteristic features of AUMUND Belt Bucket Elevators

- Lifting heights to 175 m
- Conveying capacities exceeding 2,300 m³/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



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

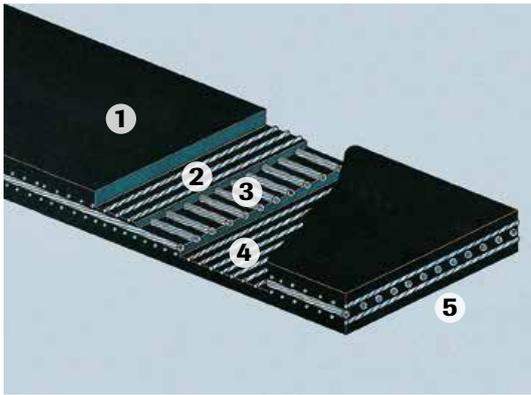
Belt Bucket Elevator Type BWG – High Performance Elevators

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

Bucket

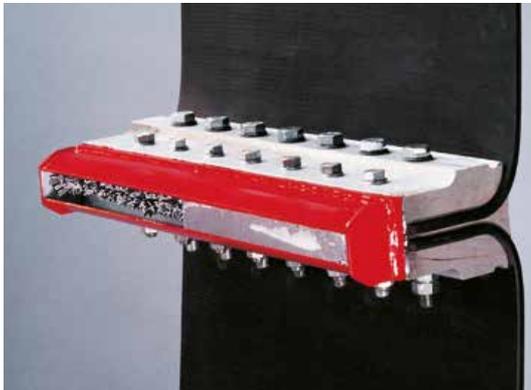
Width [mm]	Protrusion [mm]	Volume [dm ³]	Spacing [mm]	Drive drum [ø mm*]	Speed [m/s]	Max. Capacity [m ³ /h] 100 %
400	350	26.7	390	1,038	1.57	387
500		33.4				484
630		42.1				610
630	370	47.0	410	1,163	1.76	726
800		59.7				923
1,000		74.4				1,150
800	415	75.4	455	1,288	1.94	1,157
1,250	370	93.0	410	1,163	1.76	1,437
1,000	415	94.3	455	1,288	1.94	1,447
1,250		118.0				1,811
1,400		132.2				2,029
1,600		151.0				2,318

* with friction lining

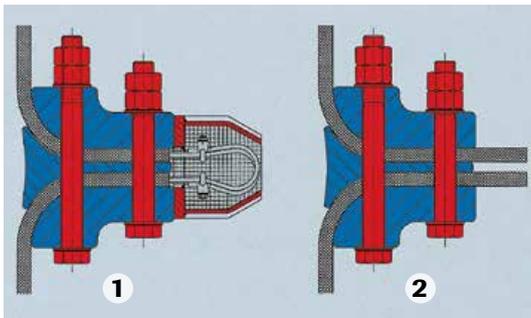


Belt construction

- 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



Bucket Elevator for low to medium capacities

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.

Belt Bucket Elevator Type BWG – Low to Medium Duty

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

Bucket

Width	Protrusion	Volume	Spacing	Drive drum	Speed	Max. Capacity
[mm]	[mm]	[dm ³]	[m/s]	[ø mm*]	[m ³ /h]	[m ³ /h] 100 %
250	250	8.4	290	664	1.34	140
315		10.6				176
355		12.0				200
400		13.5				225
450		15.2				253
500		16.9				281

* with friction lining



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 & Field 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 upgrading. The benefits for you: Maximum equipment efficiency at lower operating cost.

Spare and Wear Parts

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

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.

Retrofits & Modernisation

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.

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.



AUMUND Group Spanning the Globe

The AUMUND Group offers efficient solutions for conveying and storage of bulk materials. A particular strength is the technologically mature and extremely reliable machinery for handling all kinds of bulk materials, even hot, abrasive or sticky. More than 18,000 installations worldwide substantiate the excellent reputation and good market position of the Group. The companies of the AUMUND Group are active in more than 140 countries with 15 locations all over the world and a global network of almost 100 representatives.

AUMUND	Holding B.V. / The Netherlands
AUMUND	Fördertechnik GmbH / Germany
AUMUND	Rep. Office St. Petersburg / Russia
AUMUND	France S.A.R.L. / France
AUMUND	Machinery Trading (Beijing) Co. Ltd. / China
AUMUND	Asia (H.K.) Ltd. / Hong Kong SAR
AUMUND	Corporation / USA
AUMUND	Ltda. / Brazil
AUMUND	Engineering Private Ltd. / India
AUMUND	Middle East / Dubai
AUMUND	Group Field Service GmbH / Germany
AUMUND	Logistic GmbH / Germany
SCHADE	Lagertechnik GmbH / Germany
SCHADE	Rep. Office Moscow / Russia
SAMSON	Materials Handling Ltd. / UK

The AUMUND Group operates Service Centres and Warehousing for spare parts in Germany, the USA, Brazil, Hong Kong and Saudi Arabia. Almost 60 dedicated Supervisors tend to clients' needs across the globe and a specialized PREMÁS® Team provides Preventative Maintenance and Service support including inspection and consulting.



AUMUND Headquarters in Rheinberg, Germany

AUMUND Foerdertechnik GmbH - Saalhofer Str. 17 - 47495 Rheinberg (Germany)

Tel.: + 49 (0) 28 43-720 · Fax: + 49 (0) 28 43-6 02 70 · info@aumund.de

www.aumund.com