

PLANTS

# AMMANN CONCRETE MIXING SYSTEMS

SINGLE-SHAFT COMPULSORY MIXER,  
TWIN-SHAFT COMPULSORY MIXER,  
PLANETARY COUNTERCURRENT MIXER

**AMMANN**  
**ELBA**



# MIXING SYSTEMS FROM AMMANN

Our mixing systems have been continuously developed and have been tested with all the challenges of daily performance. The results are long life combined with a efficient mixing technology. This represents a big advantage for you. As a concrete manufacturer using Ammann mixing systems you can be sure of your end product.

## SINGLE-SHAFT COMPULSORY MIXER CEM S ELBA

The Ammann single-shaft compulsory mixer with double spiral has worldwide approval under different operating conditions. Intensive mixing and short homogenization are characteristic of the Ammann mixing principle. The mixers can be supplied for different sizes from 0.5 to 2.66 m<sup>3</sup>. The CEM 60 S Elba with a mixing volume of 60l is ideally suited for concrete development and laboratory applications.

## TWIN-SHAFT COMPULSORY MIXER CEM T ELBA

As you would expect, Ammann twin shaft mixers are also equipped with the double mixing spiral. The twin shaft mixers are available in the sizes 2 m<sup>3</sup> up to 4.5 m<sup>3</sup>. An almost 100 % discharge by discharge doors at the lowest point enable a high output capacity and a high mixing intensity.

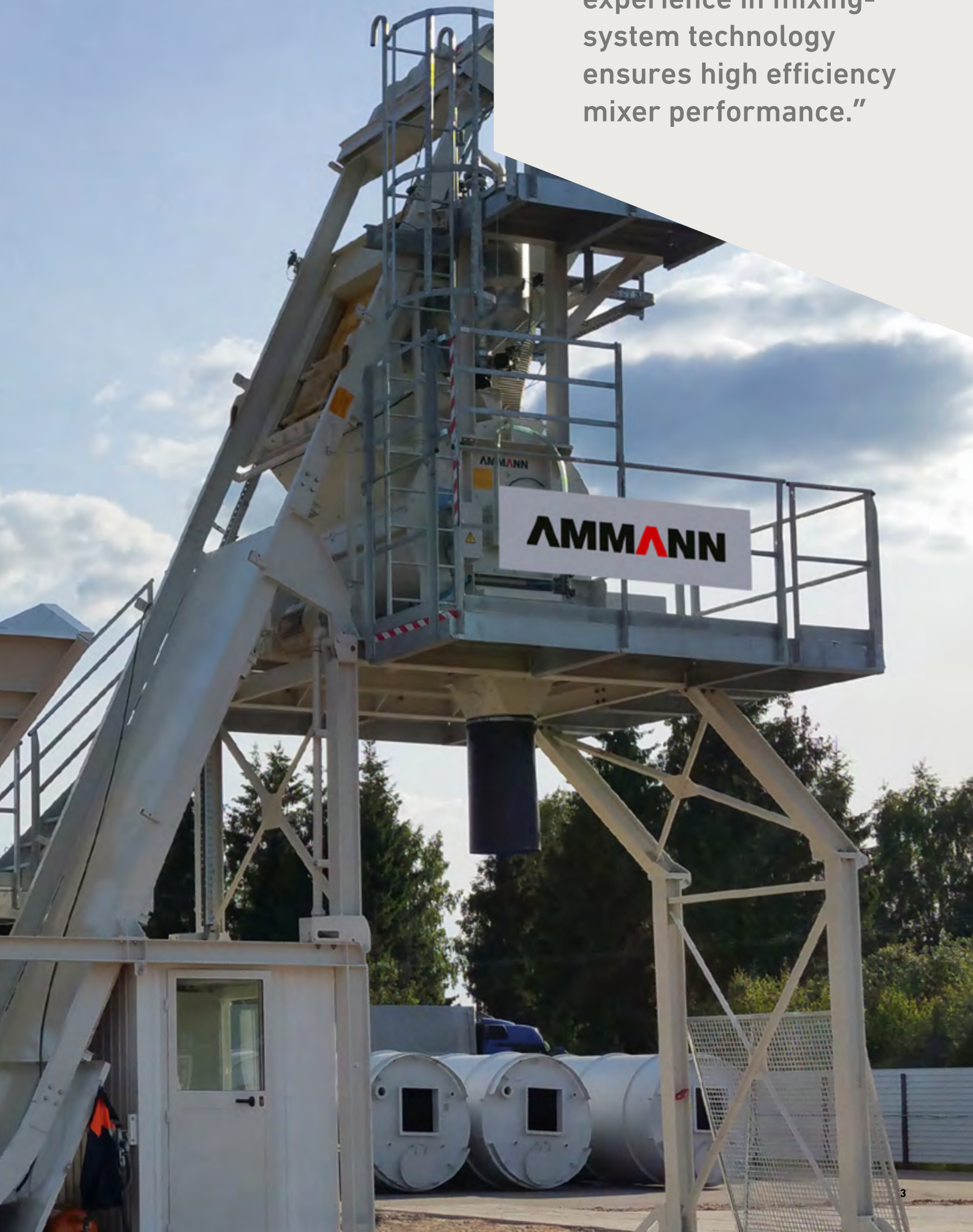
## THE PLANETARY COUNTERCURRENT MIXER CEM P ELBA

High-intensive mixing by planetary countercurrent mixing stars plus multiple discharge gates are the key features for this model range. For demanding mixing of concrete on all applications in the concrete product and precast concrete industry this version can be offered in the sizes from 0.25 m<sup>3</sup> up to 4 m<sup>3</sup>.





**“ More than 60 years of experience in mixing-system technology ensures high efficiency mixer performance.”**



# SINGLE-SHAFT COMPULSORY MIXER CEM S ELBA

Ammann with its single-shaft compulsory mixer has its place with its clear and practice-oriented mixer concept. The single-shaft compulsory mixer with double spiral has been worldwide approved under different conditions. Continuous upgrading guarantees constant high quality.

## THE MIXER PRODUCES CONSISTANT PRODUCTS OF ANY OF THE TYPES BELOW:

- Heavy-weight, normal-weight and light-weight concretes
- Cold and warm concretes
- Polystyrene concretes
- Expanded clay concretes
- Foamed concretes
- Self compacted concrete (SCC)
- Self compacted light concretes
- Ultra-High Performance Concrete
- Concrete with recycled aggregates
- Aqueous to earthy slurries of the process engineering and ecological technic
- Bituminous materials
- Bentonit/clay mixtures
- Glass mixtures
- Perlit and styropor mixtures

The compact design of the mixer ensures short material movement. The arrangement of the mixing tools enables very intensive mixing and short mixing times. In the singleshaft compulsory mixer, mixed materials are not separated by horizontal centrifugal separation. Depending on its size, the Ammann mixer processes grain sizes up to 180 mm Ø.

## HIGHLIGHTS

- Efficient, mix-intensive, safe to operate and proven in most varied applications
- Persistent owing to its uncomplicated, resistant and longlife practical construction
- Easy transport and easy operation
- Economic, high life expectancy, low maintenance

The CEM S Elba has proved its efficiency by detailed tests with the ibu (Institute for construction methodes- and environment technique) of the University of Trier/Germany. The tests have been carried out according to DIN 459/part 2 as well as RILEM TC 150-ECM. Subject of the test have been different sorts of concrete, as well as self-compacting concrete.

The test result – High Performance Mixer – underlines once again the excellent efficiency of the Ammann mixing system.

There are many trough tiles available for the different uses of the Ammann single-shaft compulsory mixer.

- Chilled casting tiles without bolts-patent pending
- Hardox tiles
- Synthetic material



CEM 2000 S Elba installed at mixer platform.



CEM 1000 S Elba





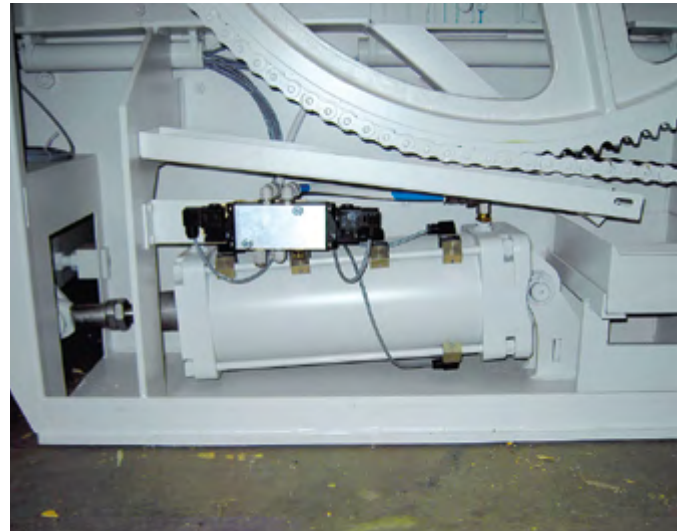
The mixer are driven by proven squirrel-cage geared motors. The final transmission step is designed as a simple and rugged chain drive (not in case of CEM 500 S Elba); thus facilitating access to mixer shaft bearing and sealing.



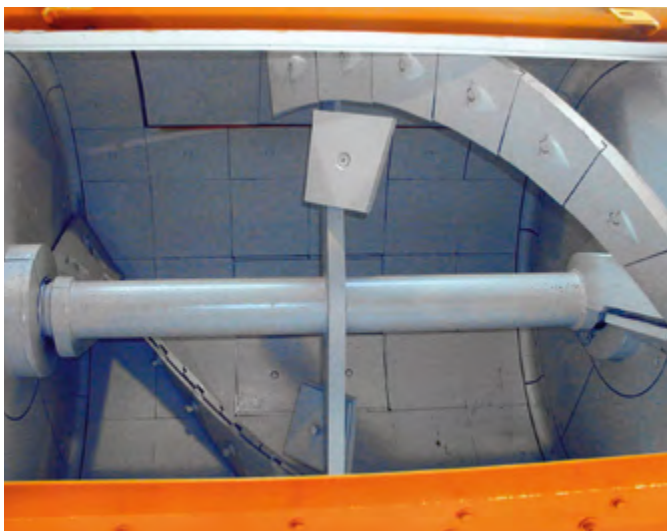
A lubricant pump driven by an electric motor provides the mixer shaft bearing with lubricant. An empty alarm switch indicates the necessity of refilling in time. Lubricant may be filled dirt-free through an existing filling coupling. The filling level is controlled through the transparent tank. Lubrication can also be made by hand.



The chain adjuster is easy to access and has noiseless chain saving plastic profile.



The mixer gate is operated pneumatically. The pneumatic cylinders are arranged in such a way that they are protected against contamination. Magnetic field switches enable individual adjustments for regulating the discharge rate (not on CEM 500 S Elba).



Inside view of CEM 1000 S Elba



The mixer shaft bearing and the sealing of the 500–2500 litres CEM S Elba series guarantee low maintenance requirement.



The large discharge gate of the mixer allows rapid discharge of the mixer.



Mixer access openings protected by additional robust safety interlocking systems (in conformity with EN 1088:2008).



Upon request, the mixer can be fitted with intake connection for additives and an air-bleed hose to be connected to the cement scale and filter. The rectangular ventilation channel is suitable for the installation of a video camera incl. illumination, allowing the mixing process to be observed via monitor. (Only in connection with suction filter plant).



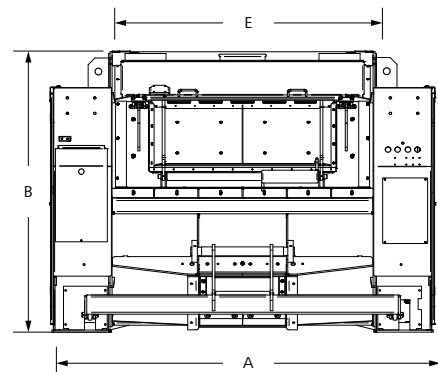
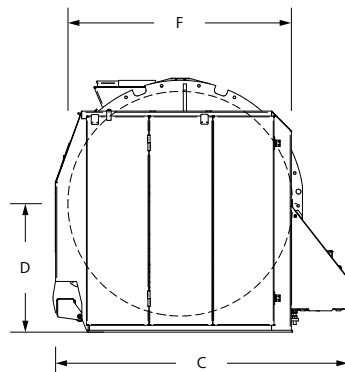
Optional, we have a mixer cleaning system at our disposal for the mixer CEM 1000 S Elba to CEM 2500 S Elba. The cleaning tube provided with nozzles may be slewed by 270 degrees by an electric motor. Cleaning is either controlled automatically or manually. A multi-stage pump draws the cleaning water from the bin of the water scale for example.



# SPECIFICATIONS

## CEM S ELBA

TYPE	CEM 500 S ELBA	CEM 1000 S ELBA	CEM 2000 S ELBA	CEM 2250 S ELBA	CEM 2500 S ELBA
COMPACTED FRESH CONCRETE	0.5 m <sup>3</sup>	1.0 m <sup>3</sup>	2.0 m <sup>3</sup>	2.25 m <sup>3</sup>	2.5 m <sup>3</sup>
DRY VOLUME	0.75 m <sup>3</sup>	1.5 m <sup>3</sup>	3.0 m <sup>3</sup>	3.375 m <sup>3</sup>	3.75 m <sup>3</sup>
WEIGHT	2600 kg	4100 kg	7600 kg	7700 kg	8200 kg
GRAIN SIZE MAX. CRUSHED / ROUND (Ø)	60 / 80 mm (max. 10 %)	100 / 120 mm	150 / 180 mm	150 / 180 mm	150 / 180 mm
ENGINE OUTPUT	20 kW	40 kW	2 × 40 kW	2 × 48 kW	2 × 48 kW
DIMENSIONS					
A	2106 mm	2155 mm	2850 mm	2850 mm	3170 mm
B	1316 mm	1733 mm	2066 mm	2066 mm	2066 mm
C	1463 mm	2167 mm	2430 mm	2430 mm	2430 mm
D	650 mm	920 mm	1040 mm	1040 mm	1040 mm
E	1311 mm	1570 mm	1940 mm	1940 mm	2260 mm
F	1162 mm	1444 mm	1820 mm	1820 mm	1820 mm



## LABORATORY MIXER



TYPE	CEM 60 S ELBA	
COMPACTED FRESH CONCRETE	60 l	
DRY VOLUME	90 l	
WEIGHT	300 kg	
ENGINE OUTPUT	3.3 kW	
OPERATING VOLTAGE	400 V	
FREQUENZY	50 Hz	
DIMENSIONS	MIXER	FOR TRANSPORT
LENGTH	1480 mm	1480 mm
WIDTH	1360 mm	920 mm
HEIGHT	2120 mm	750 mm



# TWIN-SHAFT COMPULSORY MIXER CEM T ELBA

"Simply double" was the basis on which to develop the twin shaft compulsory Mixers. From this simple idea the high efficiency twin shaft mixer concept was created.

The core of this mixer is the double spiral, well proved in the Ammann single-shaft mixer. The positive experience with this model was incorporated in the mixing technology of the twin-shaft mixer. The model line CEM T Elba enables a compacted concrete discharge of 2 m<sup>3</sup> up to 4.5 m<sup>3</sup> per batch and they complete the Ammann product range.

Unique to this model is the discharge design, which is located at the lowest part of the mixer. As a result almost 100 % discharge will be achieved. After the cleaning process of the mixer there is no residual water to affect the next batch.

CEM T Elba mixers are also equipped with the screwless mixer lining as well as the unique labyrinth sealing technology well known from the CEM S Elba mixer line. Rapid and cost-effective servicing is a result of this technology.

Twin-shaft compulsory mixers are available in the Ammann mixing plants from model 105 to 200 and also as a single mixer. Due to the compact design they are extremely well suited for cost-efficient installations in existing mixing plants.

## HIGHLIGHTS

- Robust design
- Service friendly drive system
- Large service and cleaning opening gates
- Screwless interlocking tiles
- Discharge at the lowest point

The efficiency of CEM T Elba models has been proved in exhaustive tests with the IBU (institute for methods- and environment technique) at the University of Trier/Germany. Test products included different concrete mixes, including self-compacting concrete. The test result classified this mixer as a "High Performance Mixer" which underlines once again the excellent efficiency of the Ammann mixing system.

Model CEM T Elba is a reliable mixing system that allows you to get a homogenous mixing within a short period of time as well as ongoing economical production. All concrete mixes produced with the CEM S Elba product line can also be produced with the CEM T Elba product line.



CEM 3000 T Elba seen from the drive side. Driven by robust electric motors, toothed belt drive and bevel gear.

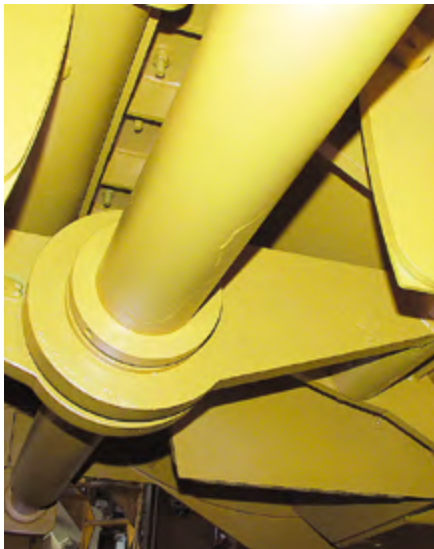




The intensive mixing action results from the axial and radial movement of the well proved Elba-mixing spirals.



Central greasing device with grease flow control.



Dischage gate closed.

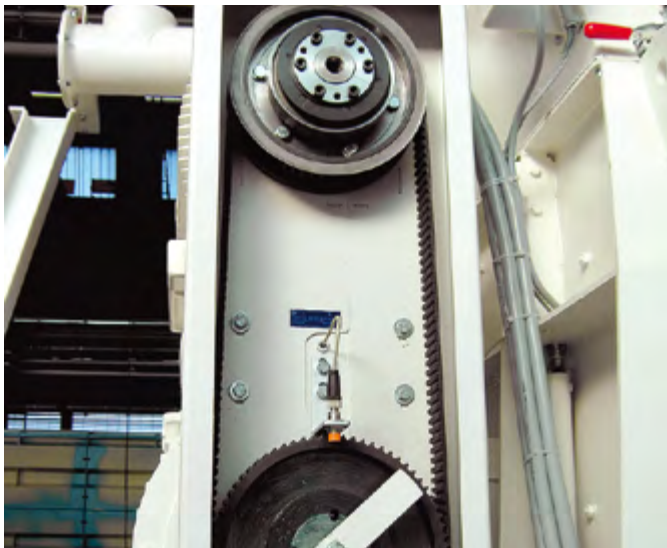
Nearly complete discharge by a new discharge technique permitting multiple discharge opening widths. Operation via reliable pneumatic cylinders.



Discharge gate open



Access to the labyrinth sealing via half-shells from inside the mixer reduces the service to a minimum without dismantling of the bearings.



First gear ratio via efficient toothed belt drive.  
Electronic toothed belt survey.



Mixer through lining by patented "screwless interlocking tiles".





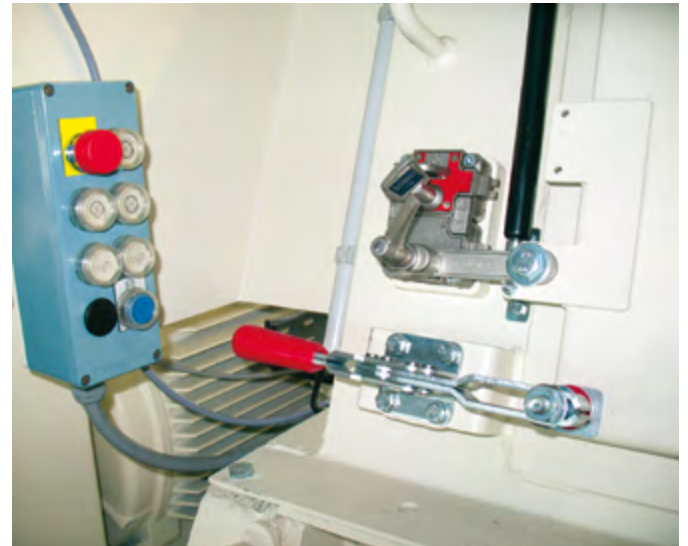
Extensive possibilities to connect with machine's technical devices (weighers, aeration filters etc). (option)



A flap with elastical sealing strips closes the aggregate inlet. (option)



Arrangements of the cleaning nozzles. (option)



Mixer access openings protected by additional robust safety interlocking systems (in conformity with EN 1088:2008).



Observation of the mixing process through an opening flap, protected against accidental contact and features large cleaning opening gates.



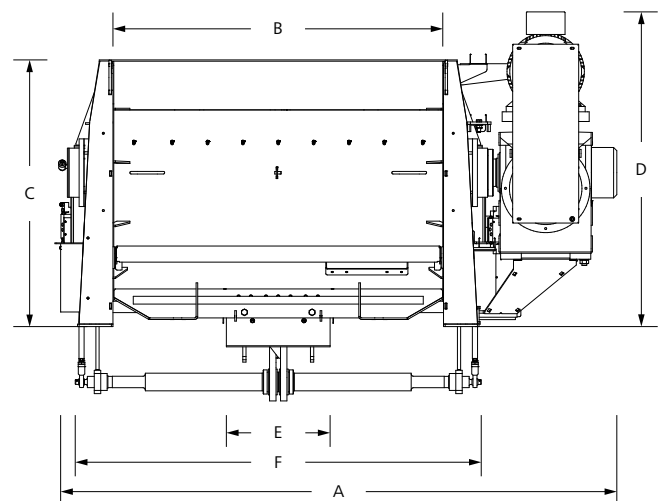
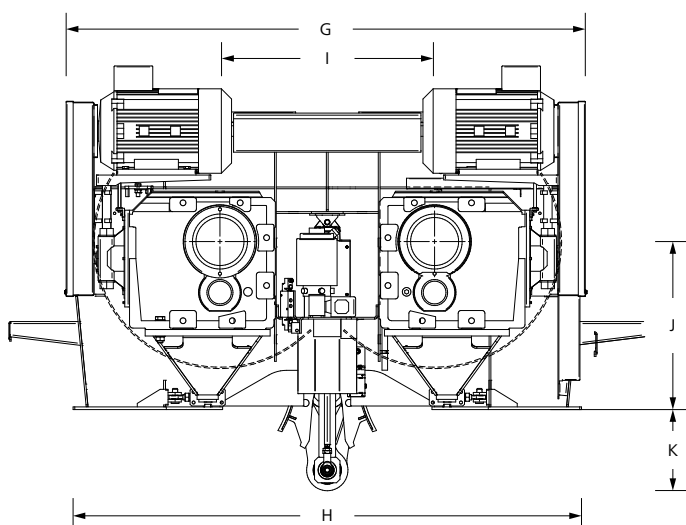
# SPECIFICATIONS

CEM T ELBA



TYPE	CEM 2000 T ELBA	CEM 2250 T ELBA	CEM 2500 T ELBA	CEM 3000 T ELBA	CEM 3333 T ELBA	CEM 3500 T ELBA	CEM 4000 T ELBA	CEM 4500 T ELBA
COMPACTED FRESH CONCRETE	2.0 m³	2.25 m³	2.5 m³	3.0 m³	3.33 m³	3.5 m³	4.0 m³	4.5 m³
DRY VOLUME	3.0 m³	3.38 m³	3.75 m³	4.5 m³	5.0 m³	5.25 m³	6.0 m³	6.75 m³
WEIGHT	7300 kg	7900 kg	7900 kg	9400 kg	11 700 kg	11 700 kg	14 500 kg	14 500 kg
GRAIN SIZE MAX. CRUSHED / ROUND (Ø)	100 / 120 mm	100 / 120 mm	100 / 120 mm	150 / 180 mm	150 / 180 mm	150 / 180 mm	150 / 180 mm	150 / 180 mm
ENGINE OUTPUT	2 × 37 kW	2 × 45 kW	2 × 45 kW	2 × 55 kW	2 × 65 kW	2 × 65 kW	2 × 85 kW	2 × 85 kW
AIR REQUIREMENT	118 *	118 *	118 *	148 *	148 *	148 *	242 *	242 *
DIMENSIONS								
A	2874 mm	2993 mm	2993 mm	3300 mm	3488 mm	3488 mm	3692 mm	3692 mm
B	1760 mm	1760 mm	1760 mm	2072 mm	2072 mm	2072 mm	2222 mm	2222 mm
C	1545 mm	1545 mm	1545 mm	1655 mm	1655 mm	1655 mm	1877 mm	1877 mm
D	1697 mm	1832 mm	1832 mm	1897 mm	1953 mm	1953 mm	2108 mm	2108 mm
E	570 mm	570 mm	570 mm	646 mm	646 mm	646 mm	714 mm	714 mm
F	2210 mm	2210 mm	2210 mm	2520 mm	2520 mm	2520 mm	2740 mm	2740 mm
G	2600 mm	2660 mm	2660 mm	2905 mm	2970 mm	2970 mm	3164 mm	3164 mm
H	2600 mm	2600 mm	2600 mm	2890 mm	2890 mm	2890 mm	2890 mm	2890 mm
I	1100 mm	1100 mm	1100 mm	1220 mm	1220 mm	1220 mm	1320 mm	1320 mm
J	895 mm	895 mm	895 mm	955 mm	955 mm	955 mm	1080 mm	1080 mm
K	364 mm	364 mm	364 mm	462 mm	462 mm	462 mm	457 mm	457 mm

\* Air requirement per cycle (uncompressed air)



# PLANETARY COUNTERCURRENT MIXER CEM P ELBA

The planetary countercurrent mixer CEM P Elba completes the Ammann programme of single shaft and twin shaft mixers. Depending on the type of the Ammann planetary countercurrent mixer the sizes range from 375 litres to 6000 litres filling capacity and allow compacted concrete outputs of 250 to 4000 litres.

This mixer type distinguishes itself by a rotor which turns around the vertical centre axis and, depending on the mixer size, is fitted with 1 or more rotating mixing stars. Due to the offset rotational axis of the mixing stars the individual mixing tools of the mixing stars form a sort of planetary path.

CEM P Elba are mainly used in the block-making and concrete precast industry and are particularly suited for the production of the following concrete types:

- Face and core concrete
- Normal concrete
- Light-weight concrete
- Heavy-weight concrete
- Self-compacting concrete
- Self-compacting light-weight concrete
- Ultra-high performance concrete
- Special products such as foamed concrete

## HIGHLIGHTS

- Good accessibility
- Intensive mixing
- Wide performance spectrum
- Fast discharge
- Several discharge openings (option)



CEM 1500 P Elba



As the Ammann planetary countercurrent mixers are able to produce a large range of different concrete types and qualities they are used in various industries:

- Paving stone making plants using face and core concretes
- Concrete pipe making plants
- Carrousel plants producing different concrete products
- Precast concrete works needing medium to large concrete quantities
- Combined plants for the production of precast concrete and ready-mix concrete

Opening and closing of the mixer gate is controlled electro-hydraulically. The large discharge gate ensures short discharging times. Several discharge openings are offered as options and allow the mixer to be tailored to specific concrete discharging tasks such as connection to bucket conveyor, concrete distributor or truck mixer feeding. It goes without saying that the mixer gate is fitted with a manual emergency opening. For maintenance and cleaning works generous flaps are available. Additional openings which cannot be reached in allow the mixing process to be observed when the cleaning gates are closed.

As a standard, Ammann planetary countercurrent mixers are lined with wear plates and the counterflow principle ensures a long operating life and low operating costs. Other linings are offered as options.

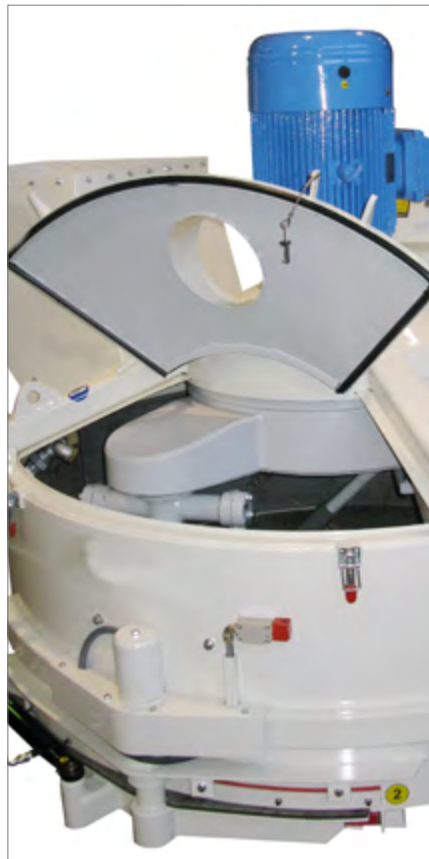
## THE FOLLOWING OPTIONS ARE AVAILABLE:

- Wearing protection mixing arms
- Additional mixer discharge gates
- Lining of mixing trough by plates of composite material (61 HRC)
- High-pressure mixer cleaning using 3–4 rotating nozzle units (100 bar operating pressure)
- Inlet opening (for cement etc.)
- Integration of consistency measuring probes
- Hydrodynamic coupling from CEM 1125 P Elba upwards
- Temperature measurement

Ammann planetary countercurrent mixers can be integrated as Retrofit units in existing production plants or can, with Ammann modules CMP Elba, be offered as complete mixing units in different production plants.



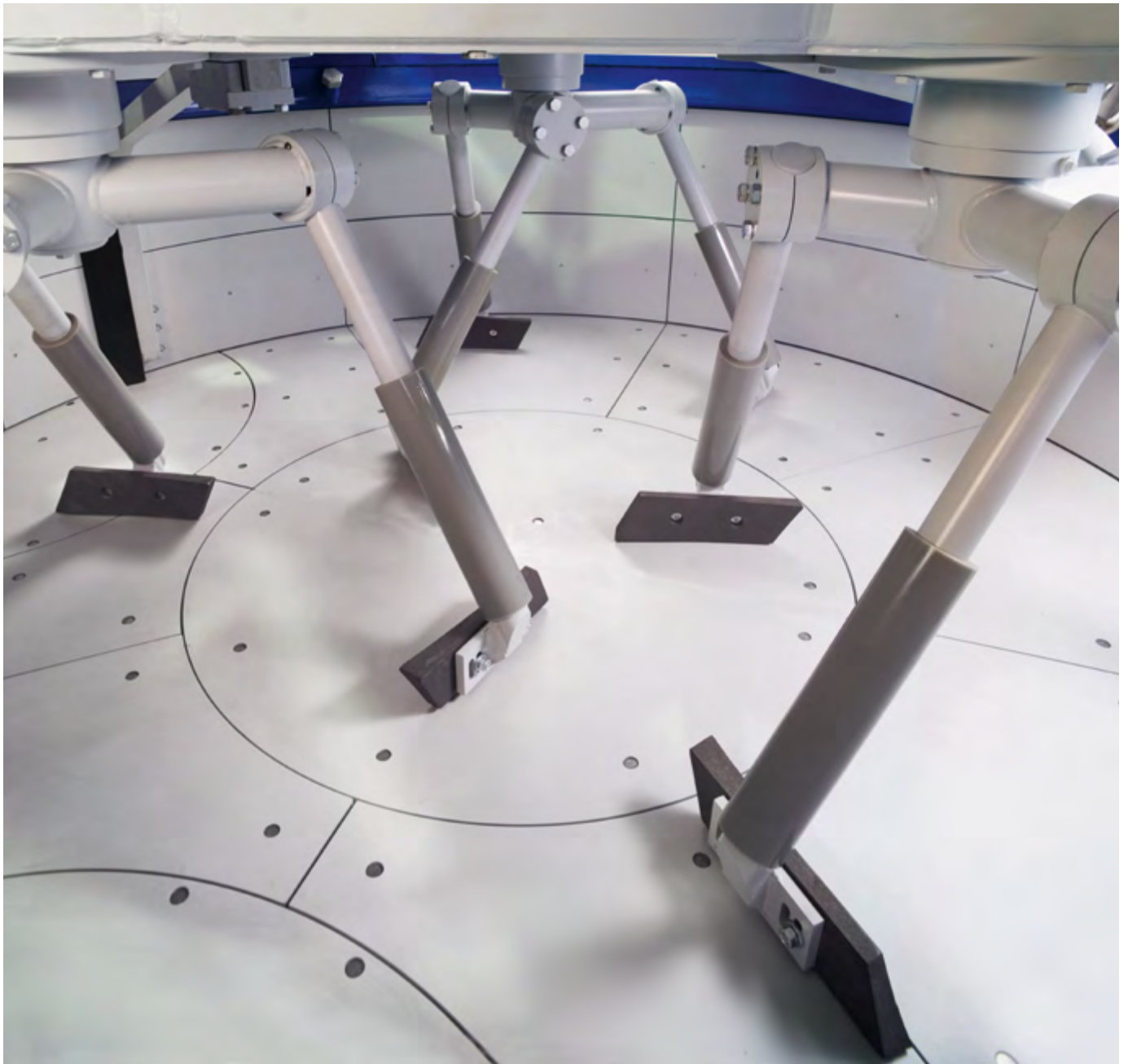
Hydraulic drive for the closing gate.



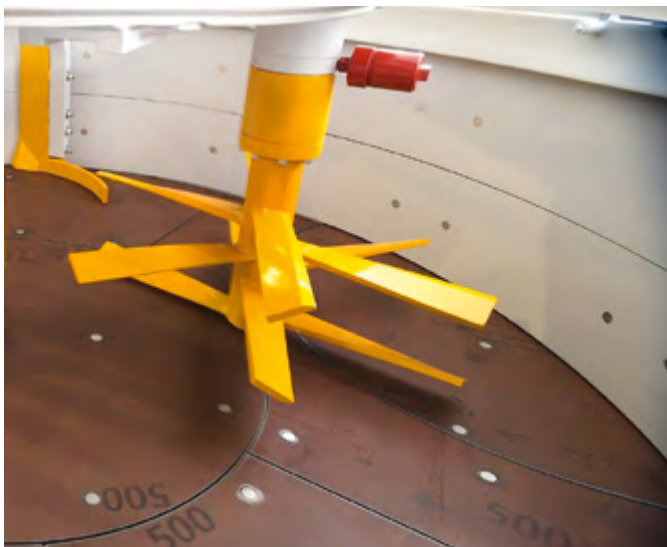
Large cleaning openings. Monitored gates easily to be opened.



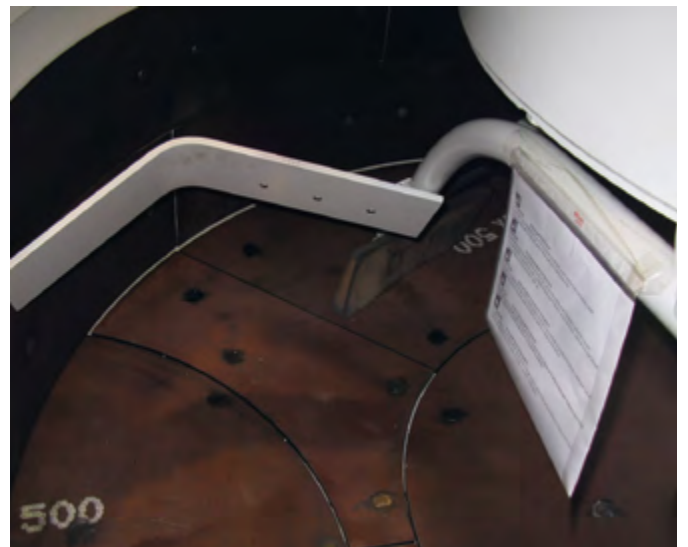
CEM 750 P Elba with optional cement weigher.



CEM P Elba internal view with cast iron mixing blades (standard).



CEM 1500 P Elba with agitator (option).













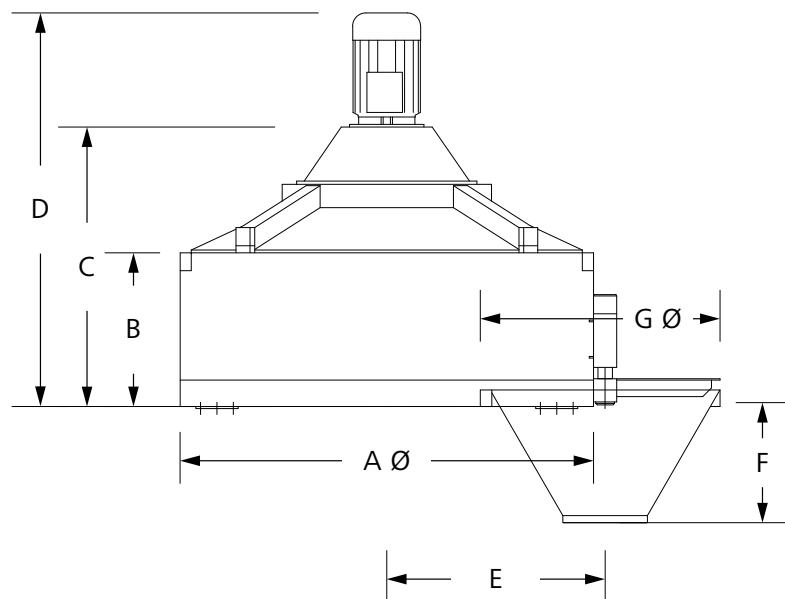
CEM P Elba swivelled in discharge aid (option).



# SPECIFICATIONS

## CEM P ELBA

										
TYPE	CEM 375 P ELBA	CEM 500 P ELBA	CEM 750 P ELBA	CEM 1125 P ELBA	CEM 1500 P ELBA	CEM 2250 P ELBA	CEM 3000 P ELBA	CEM 3750 P ELBA	CEM 4500 P ELBA	CEM 6000 P ELBA
COMPACTED FRESH CONCRETE	250 l	333 l	500 l	750 l	1000 l	1500 l	2000 l	2500 l	3000 l	4000 l
UNCOMPACTED FRESH CONCRETE	365 l	485 l	725 l	1090 l	1450 l	2175 l	2900 l	3625 l	4350 l	5800 l
DRY VOLUME	375 l	500 l	750 l	1125 l	1500 l	2250 l	3000 l	3750 l	4500 l	6000 l
WEIGHT	1440 kg	1610 kg	2090 kg	3700 kg	4880 kg	5590 kg	8800 kg	9100 kg	11800 kg	16880 kg
ENGINE OUTPUT	9.2 kW	11 kW	18.5 kW	37 kW	45 kW	75 kW	90 kW	110 kW	132 kW	160 kW
HYDRAULIC UNIT POWER	2.2 kW	2.2 kW	2.2 kW	3 kW	3 kW	3 kW	4 kW	4 kW	7.5 kW	7.5 kW
MIXING STARS	1	1	1	1	2	2	3	3	3	3
MIXING ARMS	1 × 2	1 × 2	1 × 2	1 × 3	2 × 2	2 × 2	3 × 3	3 × 3	3 × 3	3 × 3
SIDE SCRAPERS WITH DISCHARGE AID	1	1	1	1	1	1	1	1	1	1
FAST DISCHARGE AID	–	–	Option	Option	Option	Option	Included	Included	Included	Included
DIMENSIONS										
A	1300 mm	1600 mm	1900 mm	2300 mm	2500 mm	2800 mm	3300 mm	3300 mm	3600 mm	4000 mm
B	730 mm	730 mm	780 mm	940 mm	940 mm	960 mm	1160 mm	1160 mm	1360 mm	1420 mm
C	1340 mm	1380 mm	1190 mm	1660 mm	1700 mm	1780 mm	2040 mm	2100 mm	2330 mm	2470 mm
D	1760 mm	1870 mm	1740 mm	2350 mm	2390 mm	2600 mm	2860 mm	3140 mm	3370 mm	3550 mm
E	700 mm	850 mm	1000 mm	1220 mm	1320 mm	1470 mm	1720 mm	1720 mm	1890 mm	2090 mm
F	260 mm	350 mm	480 mm	690 mm	690 mm	690 mm	930 mm	930 mm	1050 mm	1270 mm
G	840 mm	940 mm	1080 mm	1390 mm	1390 mm	1390 mm	1690 mm	1690 mm	1860 mm	2100 mm



# EWP ELBA WEAR PROTECTION

## WHAT'S EWP?

EWP is a complete wearing-set with an excellent price performance ratio. Consisting of high wear resistant polyurethane. This is dimensionally accurate and suitable for mixer shaft-and arms, discharge hopper and skip.

## WHY USE EWP?

You want to extend the lifetime of your batching plant. Protect your machine parts which are subject to wear and tear, to achieve a maximum of lifetime of these components.

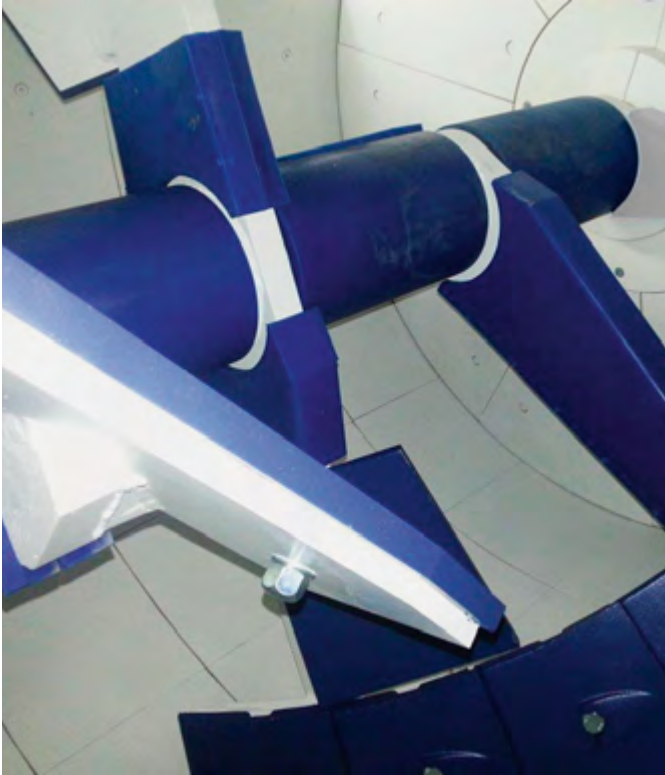
## HIGHLIGHTS

- Long lifetime
- Less caking within the mixer,
- discharge hopper and skip
- Easy cleaning
- Wear protection is quickly and simple to install

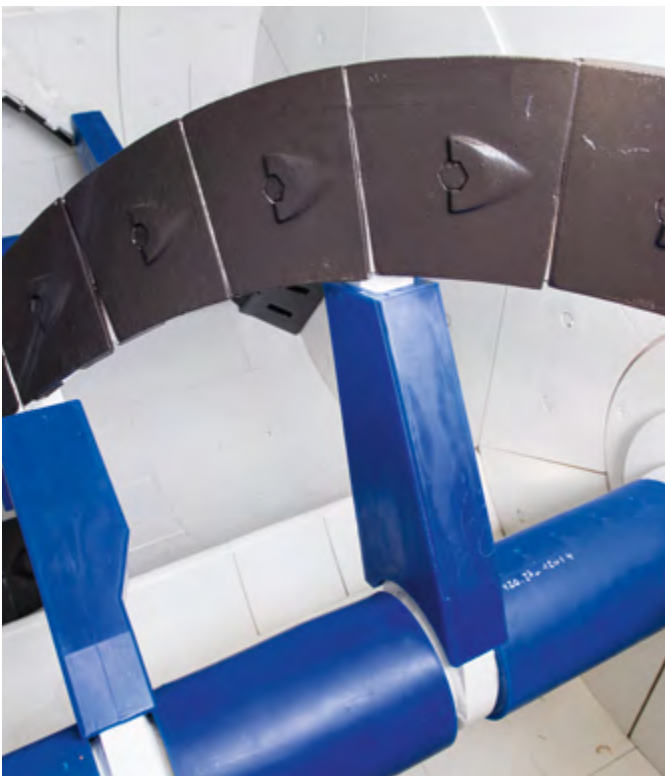
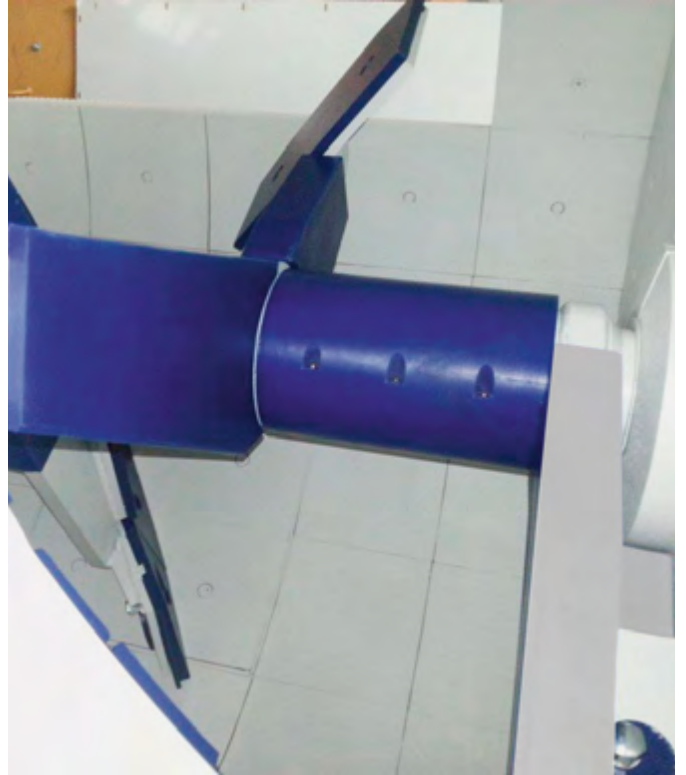




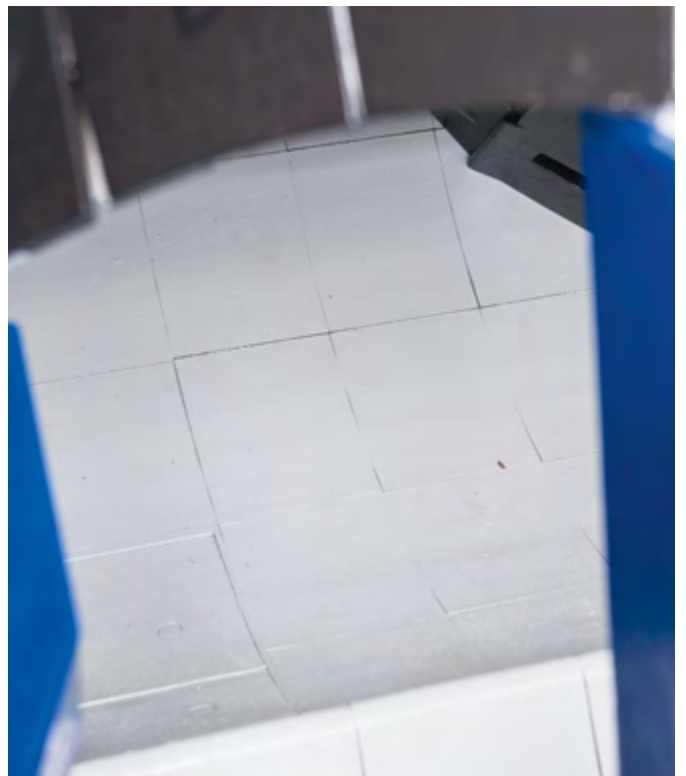
**“ Extend the life time of your batching plant with Elba wear protection.”**



EWP in the single-shaft compulsory mixer CEM S Elba.



EWP in the twin-shaft compulsory mixer CEM T Elba.





**GERMANY**

CBS 120 SL ELBA



**GERMANY**

CBT 60 SL ELBA



**RUSSIA**

CBT 60 SL ELBA



**NIGERIA**

CBS 105 SL ELBA



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and services please visit:  
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