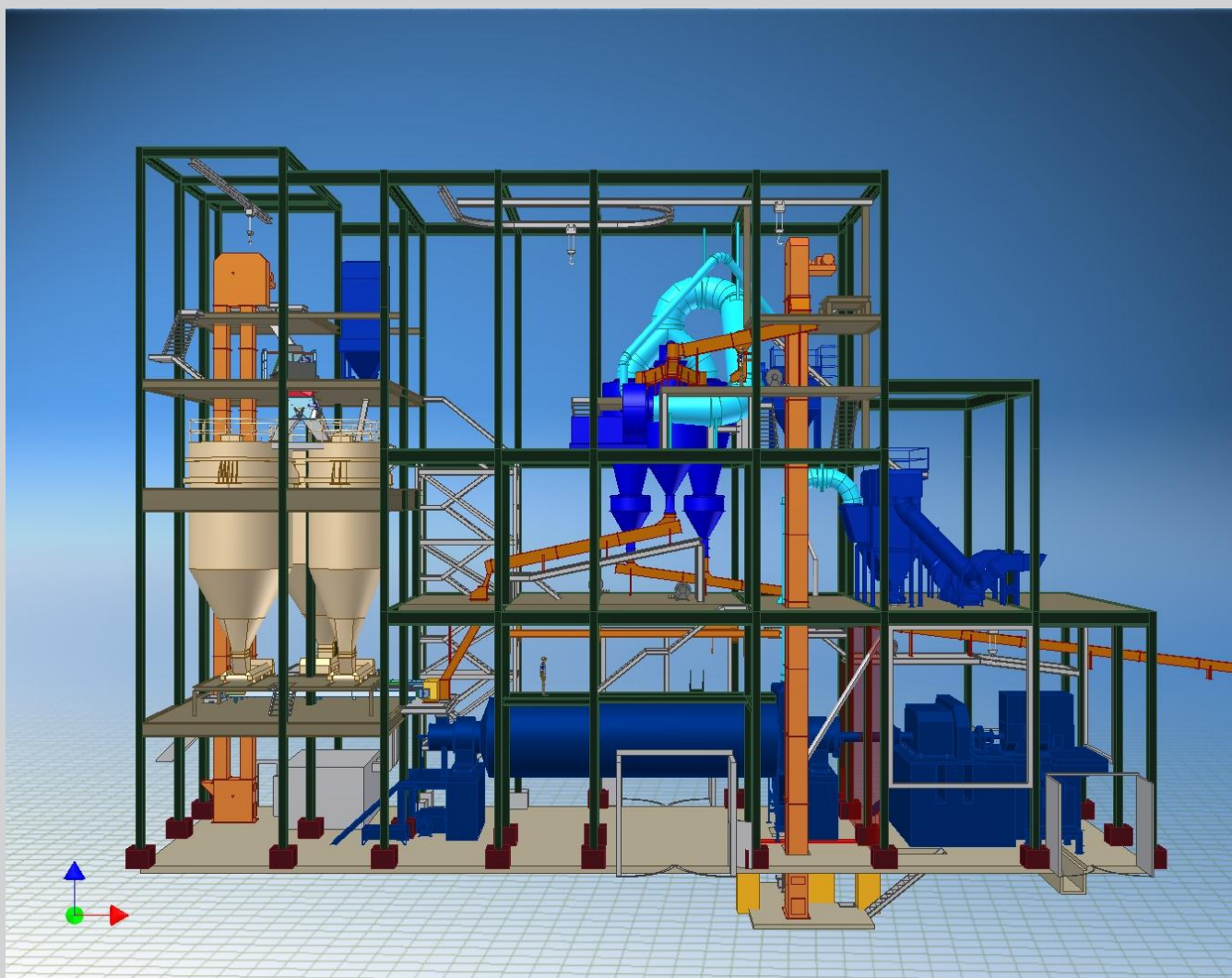


## Used equipment

For sale by InterCem

**1 pre-owned clinker grinding plant with ball mill  $\varnothing$  3,2m x 10,6 m  
for approx. 40 t/h OPC at 3000 Blaine (I01032)**



Example of a cement grinding plant with used / refurbished ball mill and partial new auxiliary equipment

On offer: a pre-owned clinker grinding plant with a two compartment ball mill, a feeding bucket elevator, a circuit bucket elevator, a set of weigh feeders for mill feeding, an air separator and a mill dedusting bag filter. This offer includes other than below mentioned machinery various connecting pipes, ducts and air-slides. Also included are various spare-parts for the equipment as far as available. Additional customized solutions (e.g. engineering, modifications, etc.) are available on demand.

**Technical specification:****1.01 1 Feeding chain bucket elevator**

The feeding chain bucket elevator is manufactured by Polysius / Germany.

**Technical data:**

Bucket width	500 mm
Distance c-t-c	20 m

**Motor:**

Motor power	15 kW, 380 V, 50Hz
Motor speed	1450 rpm

**Gear box:**

	Flender ZOW 250
Gear box speed	1.400 / 52 rpm

**1.02 1 Belt conveyor**

Material:	clinker / gypsum / additives
Feed material temperature	< 80°C
Feed size	max. 50 mm
Conveying capacity:	approx. 100 t/h
Belt width	650 mm
Belt length c-t-c	approx. 15 m
Motor power	7,5 kW, 380 V, 50 Hz

## 1.03 3 Weigh feeder for clinker, gypsum, additives

Manufacturer:	Schenk, Germany
Type:	DME 8
Feed material:	clinker, gypsum, additives
Feed size:	0 - 30 mm, max. 50 mm
Feed moisture:	< 1.0 %
Bulk density:	approx. 1,3 t/m <sup>3</sup>
Feed rate:	Clinker: approx. 50 t/h Gypsum: approx. 10 t/h Additives: approx. 20 t/h
Belt width:	780 mm
Belt length c-t-c:	1200 mm



Weigh feeder for clinker, gypsum and additives (Original place of installation)

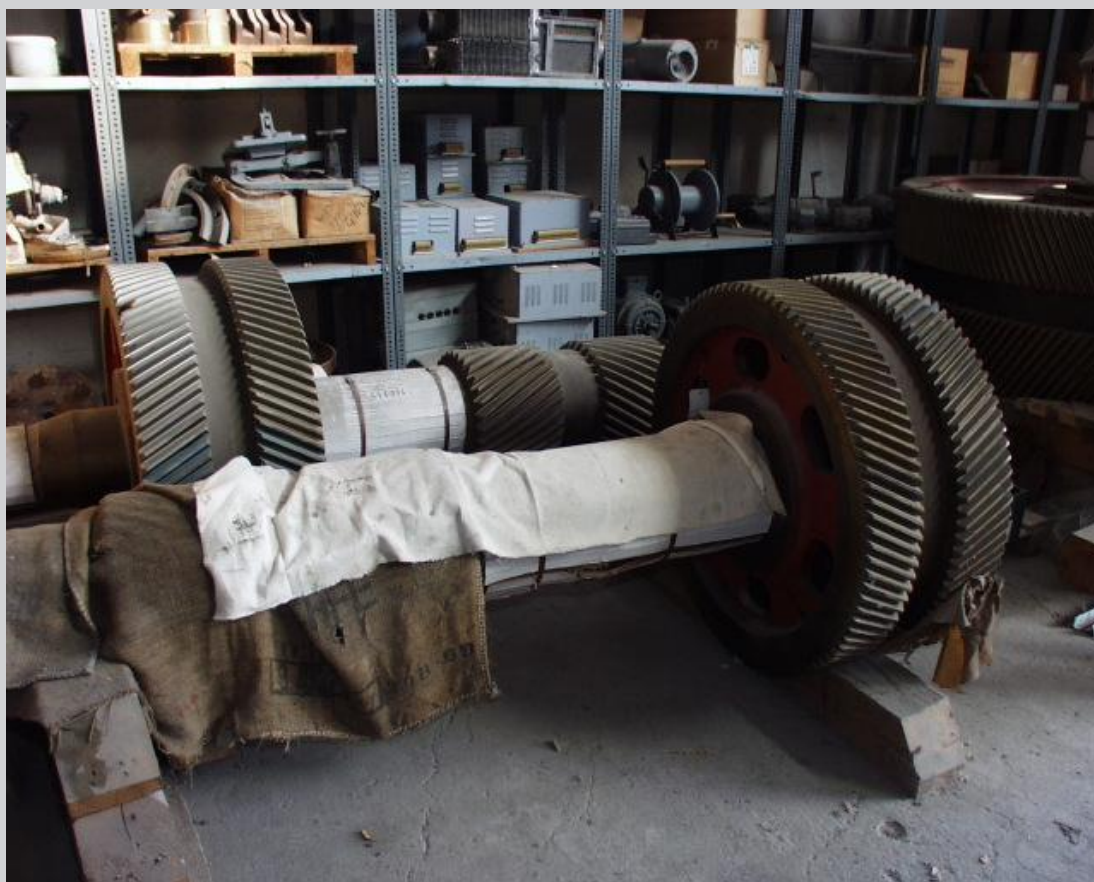
**2.00 1 Ball mill****a) Process data of the mill**

Altitude:	max. 100 m a.s.l
Ambient temperature:	Max. 45 °C Min. +5 °C
Humidity:	average 60-95 %
Mill type:	ball mill
Type of circuit:	closed with air separator
Type of mill discharge:	discharge wall
Feed material:	clinker, gypsum, additives
Bulk density of feed material:	1.3 to/m <sup>3</sup>
Feeding grain size:	80% < 12 mm
Moisture content of feed material:	max. 1 %
Filling degree:	27 %
Grinding media weight:	approx. 94 to (not included)
Type of grinding media:	balls (not in InterCem delivery)
Grinding media size:	20 – 90 mm

**b) Mechanical data of mill:**

Manufacturer:	Krupp / Germany
Year of manufacturing:	1960
Inside diameter of mill tube:	3.200 mm
Cylindrical length of mill tube:	10,6 mm
Kind of bearing:	trunnion bearing
Mill drive:	girth gear / pinion
Effective grinding path:	10.000 mm
Length of grinding chamber I:	3.750 mm
Length of grinding chamber II:	6.250 mm
Lining - inside mill diameter:	approx. 3.070 mm
Mill speed (=72,6 % cs):	17,3 rpm
Critical mill speed:	71,7 rpm
Motor speed:	990 rpm
Grinding capacity:	approx. 1.200 kW
Installed main drive capacity:	1.300 kW
Main gear box	Würfel ZGD250
Main gear box speed	985 / 17,3 rpm
Voltage	6.000 V / 50 Hz





The gear box was refurbished and equipped with new gear-wheels in 2003.



Last refurbishment of mill main motor 03/2009



**Second main drive as spare part**



Auxiliary drive gear box	Würfel KBHw 72
Auxiliary gear box speed	960 / 24,5 rpm

Auxiliary drive motor	30 kW
Voltage	380 V / 50 Hz
Auxiliary motor speed	950 rpm

- Gear box lubrication included



Mill main motor with auxiliary drive (Original place of installation)



Ball mill tube (Original place of installation)



Mill main drive (Original place of installation)

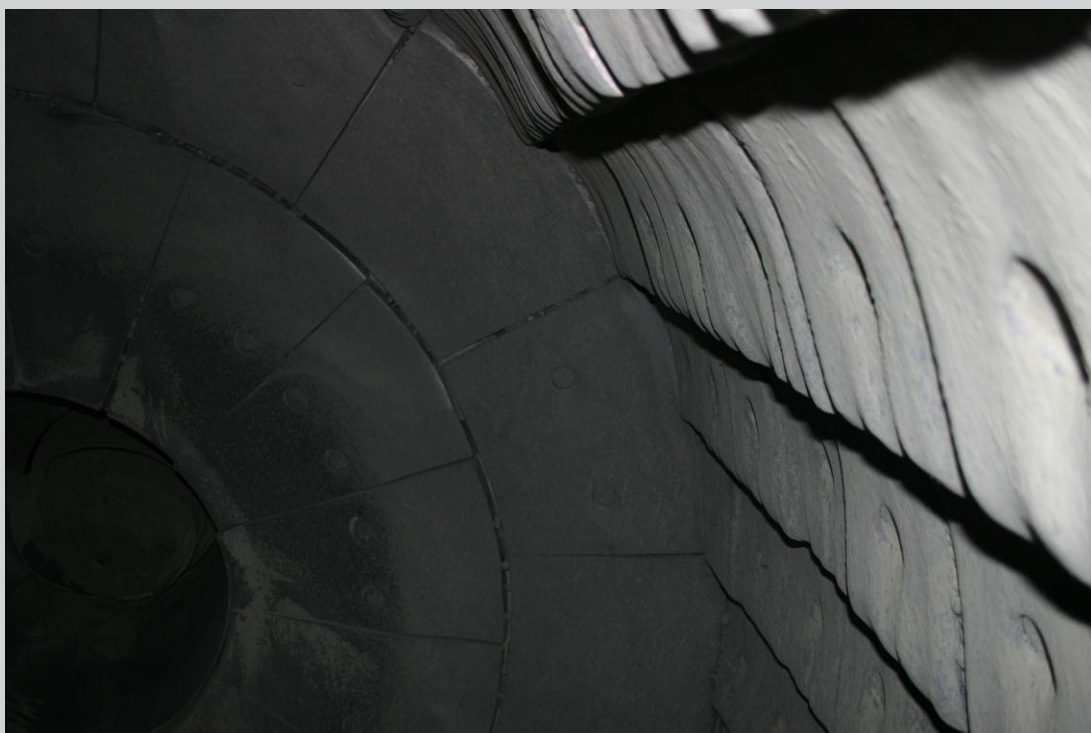




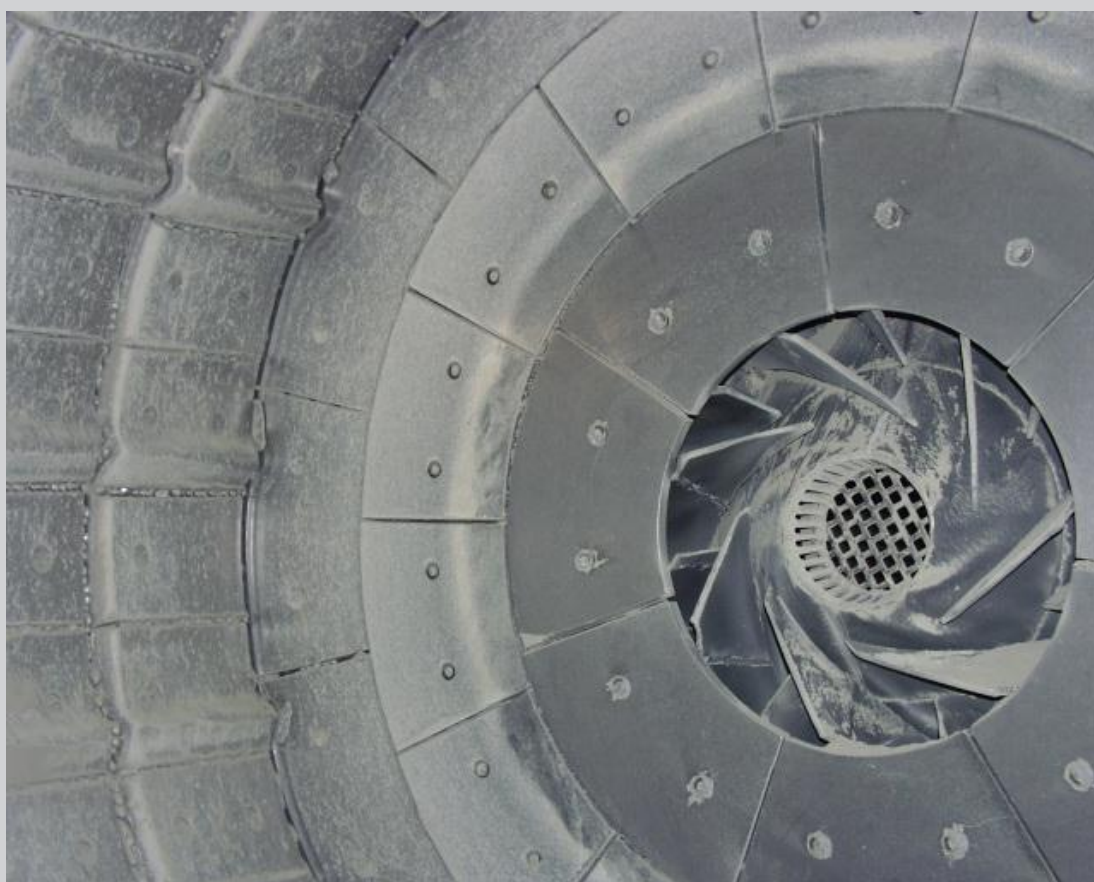
Mill intermediate diaphragm



Liner 1<sup>st</sup> compartment



Inlet wall lining system (Original place of installation)



Back side of intermediate diaphragm lining system 2<sup>nd</sup> compartment

**3.00 1     Circulating chain bucket elevator****Technical data:**

Bucket width	1000 mm
Distance c-t-c	20 m

**Motor:**

Motor power	30 kW, 380 V, 50Hz
Motor speed	1460 rpm

**Gear box:**

	Flender SDN 200
Gear box speed	1.500 / 67 rpm



Bucket elevator with feeding air slide (Original place of installation)



**4.00 1 Air separator**

Including fan designed for a feed of up to 60 t/h. Fine particles can be classified into a Blaine fineness of 2800 to 4200 cm<sup>2</sup>/g. The Separator (type QU-E) was made by the high quality German supplier Schmidt & Co. in 1997. An output between 38-40 t/h at 2800 Blaine can be achieved.



Air separator (Original place of installation)

**Scope of supply:**

- Separator top part
- Separator middle part
- Separator bottom part
- Central shaft
- Cage wheel
- Fan including motor
- Twist adjusting device
- Air circulating fan
- Lubrication system

**Technical specification:****Fan:**

V:	13.89 m <sup>3</sup> /s
N:	1559-1722 Rpm
P <sub>w</sub> :	76 kW
P <sub>total</sub> :	4600 Pa
T <sub>max</sub> :	100 °C

**Fan motor:**

Supplier:	ABB
Type:	315S-4
P <sub>installed</sub> :	110 kW
Speed:	1485 Rpm
Voltage:	400 V; 155 A; 50 Hz

**Cage drive:**

Supplier:	Bauer
Type:	G91-20/DN 8 B4-657
P <sub>installed</sub> :	37 kW
Speed:	1460-380 Rpm
Voltage:	400 V; 53.5 A; 50 Hz

**Twist adjusting device:**

Supplier:	Auma
Type:	SAR 07.1-E8-GF63,2
P <sub>installed</sub> :	0.045 kW
Speed:	140 Rpm
Voltage:	400 V; 50 Hz
Torque:	300 Nm

<b>Total weight:</b>	approx. 14000 kg
----------------------	------------------



Process fan (Original place of installation)





Process fans (after dismantling)



Wear protection of the separator (after dismantling)



Cage wheel of the separator (after dismantling)



Middle part of the separator (after dismantling)

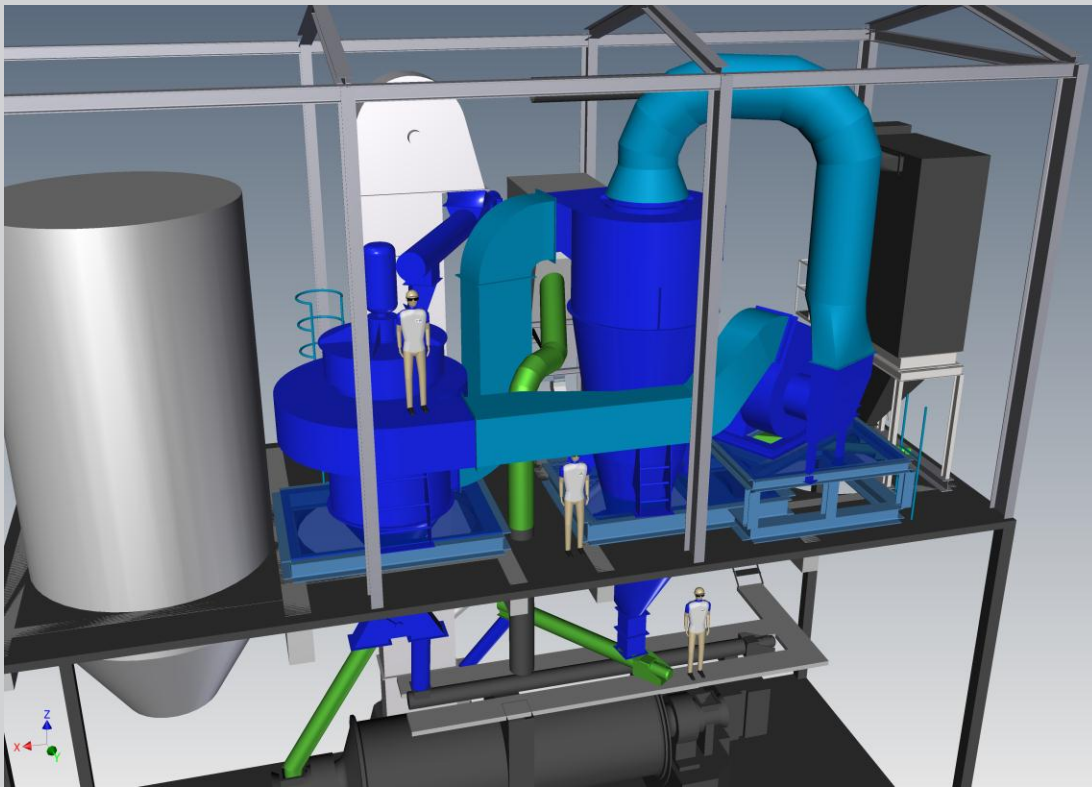




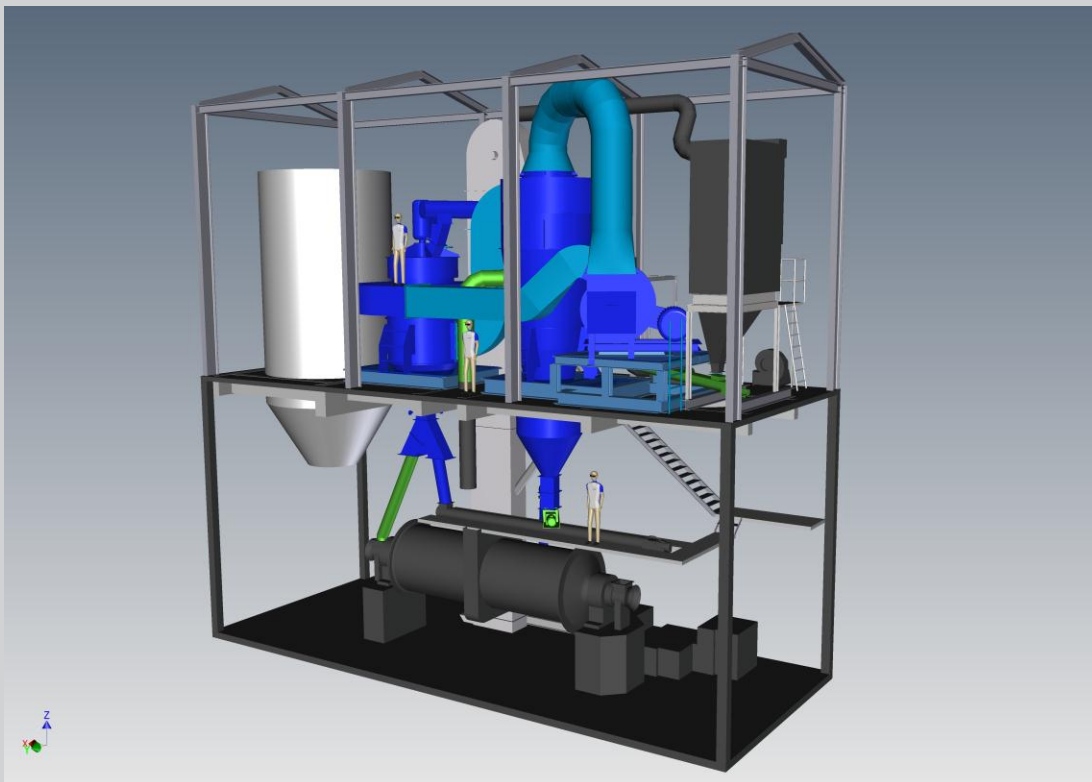
Process fan (after refurbishing)



Seperator casing (after refurbishing)



3D drawing of the separator



3D drawing of mill and separator arrangement

**5.00 1 Set of Air slides**

**5.01 1** Air slide for mill discharge to circulating bucket elevator

**5.02 1** Air slide for feeding air separator

**5.03 1** Air slide for reject to mill inlet

**5.04 1** Air slide underneath cyclone for finish product



Set of air slide (Original place of installation)



**6.00 1 Flow control gate**

For measuring the reject quantity from the separator



Flow control gate (Original place of installation)

**7.00 1 Mill main filter**

Manufacturer	Intensiv / Germany
Type	IFS 98/7
Number of compartments	14
Cleaning method	mechanical rapping mechanism
Air capacity	44.000 m <sup>3</sup> /h
Fan	Intensiv RM-80-K-B93
Fan motor power	45 kW, 380 V / 50 Hz
Fan motor speed	1.455 rpm
Fan pressure	270 mm water gauge



Mill main Filter (Original place of installation)

**General remarks:**

The above described equipment is currently in operation in Germany. The plant components are due to the constant state of maintenance in good condition and can be dislocated. All machinery can be dismantled, packed and reinstalled in a new plant in a short time period.