K BEŞ GAYRİMENKUL
DANIŞMANLIK
İnş. Taah. Tur. San. Ve Dış Tic. Ltd. Şti.

SUPPORTED BY
EEIG
EUROPEAN ECONOMIC CHAMBER OF TRADE,
COMMERCE AND INDUSTRY

İSTANBUL - AFYON - TÜRKİYE

Clinker section :

1) the feeding size of clinker retarder section :

2) gypsum : type, feeding size, moisture (mixed material section : refers to the other material is added in cement grinding)

3)slag : feeding size, moisture

4) coal ash : powder id our of the electric dust collector, or heap yard block (particle size,moisture)
Note: other kinds of composite materials (such as limestone, etc.), according to the country's resources.
fuel material (slag or other containing water material need baking, this be provided)

5) industrial analysis of coal (volatile, ash content, tixed carbon, calorific value etc.),
particle size, moisture into the factory.
chemical analysis of coal ash
Note:other fuel,it need to provide the type (such as oil, gas, petroleum coke), the composition,calorific value, particle size, moisture, etc.

6) packing section :
bag type : bag weight, need the automatic loading machine or not ?
Bulk Type : library side in bulk, or in bulk at the bottom ?
other built factory conditions :
water : water, water quality, water quantity
electrical : electricity power grid voltage (11 kv or other), frequency (50hz or 60hz)
ichnography, landform geomorphological, geology (design should be according to
geological exploration report) customer need supply the information for the grinding station as follows;

1. elevation, weather etc.

2 Basis of design
2.1 Design capacit____ ton clinker per day

2.2 Plant site condition:
2.2.1 altitude of the site above sea-level:
2.2.2 Temperature
Annual average temperature/year:___C
Averege temperature in summer:___C
Max. temperature:___C
Min. temperature:___C
2.2.3 Rainfall
Max. rainfall for calendar year:____mm
Max. rainfall for calendar year:____mm
Max. rainfall for calendar year:____mm

2.2.4 Humidity

Annual average relative humidity:____%

Relative humidity for Max. hot monthly mean:_____%

2.2.5 Wind speed

Annual average wind speed:___

10 minute average max. wind speed:_____m/s

2.2.6 Sun light Average sun light time for calendar year:___h/day

2.2.7 Max. freezing soil depth:_____mm

2.2.8 Min. freezing soil depth:_____mm

2.2.9 Annual average thunder days:_____days

2.2.10 Main wind direction

Main wind direction for calendar year summer:_____

Main wind direction for annual average season:_____

2.2.11 Information about the earthquake. thunder and hailstone

MACHINERY AND BRANDS USED IN ELECTRICAL UNITS

Reducer	– YILMAZ REDUKTOR
Electric Motors	– GAMAK (from 0,06 to 1000KW.EU engines will be used for the engines higher than 1000KW)
Electrical Materials	– OMRON
Contactors	– OMRON, SIEMENS, TELEMEKANIK
Automation	– OMRON (Plc)
Sensors	– OMRON
İnverter	– OMRON
Communication	– OMRON
Encoders	– OMRON
Servo System	– OMRON
Motor Control	– OMRON
Capacitor Load Circuit	– MADE IN TURKEY
Load Relays	– OMRON
Cables	– OF TSE
Thermal Camera Sensitive To Heat	– OMRON
Heat Meters	– OMRON
Silo Level Indicators	– OMRON
Weighing Cells	– ESIT ELEKTRONIK
Load Cell	– ESIT ELEKTRONIK

2000 t/d Clinker Mill Line

Technical Plan

İSTANBUL-AFYON / TÜRKİYE

CONTENS

Attached: Process flow sheets

1. Production scale, production method and cement types

1.1 Production method

Dry-process production method is adopted.Grinding mills and pre-mix of Portland cement clinker production will be getting done.

1.2 Production scale and capacity

The production capacity is 2000t/d for clinker, while 700，000t/a for Ordinary Portland Cement when mixed with gypsum and admixture.

1.3 Cement types

The technology and equipment adopted can produce Portland cement and Ordinary Portland cement whose strengths are 32.5MP, 42.5MP and 52.5MPa, and cement types can be adjusted according to market demand.

2 . Main technical characteristics

2.1 This production line weighing system, silo mixture and the product returns to the front suspension , ball mills, grinding mills, cement industry equipment adopts . Reliable technology and equipment , with the great economic benefits can be achieved. By importing a new bag filter technology , heat-resistant absorbent adopted silos and the homogenization of this production line technology greatly increase raw food .

2.2 Open circuit and open-circuit high fineness of raw mill for grinding cement mill will be accepted. This system is a simple and small maintenance overhead operation , high working rate .

A new system to measure the rate to 3.5 , electrical and automation control methods for control departments should be like this : the main production parts for the advanced , practical and reliable checking can be applied to other parts of the control of the economic and practical and reliable so as to achieve the purpose .

2.3 has been connected to a large önemplanındaçevreprotection . To measure up to the standard of environmental protection , dust collectors developed and applied to all the dust spots are accepted.

3. Material balance list

No.	Name of material	Naturalmoisture(%)	Consumption (t/t·cl)		Material balance (t)					
					Dry			Wet		
			Dry	Wet	Hourly	Daily	Yearly	Hourly	Daily	Yearly
1	Clinker				67.51	1700.0	595000			
2	Admixture				9.16	220	77000			
3	Gypsum	5	0.188	0.200	3.33	80	28000			
4	Cement				80	2000.0	700000			

Remarks: 1. Cement proportion: clinker: admixture: gypsum=85:11:4

4. List of Main equipment

Item	Pcs	Decription	Amount
1,1	1	**CRUSHER FEEDİNG BUNKER** 70 m3 Concrete steel construction and erection works	 1 2 to n
1,2	1	**APRON FEEDER** Capacity 120 t/h	2 to n
1,3	1	**IMPACT CRUSHER** Capacity : 100 t/h Engine: 160 KW İncluding chassis and engine belts steel construction and erection works	 3 0 to n
1,4	1	**RUBBER BAND** Under crusher BB=650mm AA=5.000mm	
1,5	1	**RUBBER BAND** Crusher – from bunker BB=650mm AA=25.000mm	
1,6	1	**BAG FİLTER** 6000 m3/hours steel construction and erection works roofing	 5 0 to n 500 m 2
2	**1**	**STOKHOL** *25x100 concrete florH=8mt* Two panes of Steel Construction 40+60 lined up in the form of hair steel Construction ***manufacturing*** 2 coat of primer,1 layer paint including	 200 ton
3 3,1 3,2 3,3	**3** 1 1 1	**BUNKERLER** Clinker Hopper (concrete) 5,5x6x7 mt Plaster Bunker (concrete) 5,5x4x7 mt Additive System (concrete) 5,5x2,5x7 mt *Construction Sheet Metal Fabrication* Mounting Plate Assembly steel structure mounting roofing	 40 ton 40 ton 50 ton 50 ton 1200 m2
4 4,1 4,2	**3** 1 2	***GATE BAR*** Vane rod for clinker 80x80 cm Two Bunker 100x100 cm	
5 5,1 5,2 5,3	**3** 1 1 1	**SCALE** For clinker 10-100 ton/h L=2.500 for plaster 1-10 ton/h L=2.500 contribution to 5-50 ton/h L=2.500 installation of equipment	 10 ton
6,1	1	**GATHERING TAPE** BB=650mm AA=15.260mm Band Speed *V=1,05m/sn* Side Angles 30° Band Type EP 100/4-4/2 Driven by reducer engine P=5kW n=40 rotation/minutes top role 1000mm, sub-role 2000mm openness	
6,2	**1**	**CONVEYORBAND** rubber band BB=650mm AA=33.000mm band speed V=1,05m/sn ⌟=15° Side Angles 30°, Bandtype EP 1000/4-4/2 Driven by reducer engine P=7,5kW n=40 rotation/minutes top role 1000mm, sub-role 2000mm openness locked reducer	

7	1	**BAG FIL** **TER** 6000 m3/hours	
8	1	**CEMENT MILL** 4X13 m trunk bed. Drive Symetro drive n=16,3d/minutes Driveengine P=3.100kW, Helpdrivegearsandenginecomplete, Seperator air circulation mill RulmanCharge Q=180 ton	350 ton 180 ton
9	1 1	**COOL BAND** Mill-elevatorcross Q=400ton/hours B=315 mm, L=9.200mm ⌜=12° Ventilator 600m3/hours P=600mmSS	9,20
10	1	**ELEVATOR** Capacity 200 ton/hours, *BB=1.000mm* AA=26.650mm Driven by reducer engine andcomplete with driven help Pants shoot output	
11	1 1	**COOL BANDS** Elevator- separators cross 1x400 ton/hours B=315mm,L1=3.450mm L2=2.100mm, L3=2.120mm L4=885mm, L5=1.600mm ⌟=7° Ventilator 1.200m3/hours P=600mmSS 3waypotengine VVR,HHR,VVL	10,20mt
12	1	**SEPARATORS** Capacity Q=450ton/hours *Tip:N 2500 Q-SEPA* Dynamic Separator Engine P=185kW, 2.500m3/minutes MONTAGE	 30,00
13	 1	**COOL BAND** Capacity Q=250ton/hours *B=315mm* L=1.800mm ⌟=7°Ventilator 500m 3/hours P=600mmSS	1,80mt
15	 1	**COOL BAND** Capacity 250ton/hours B=315mm L=11.760mm ⌝=7°Ventilator 700m 3/hours P=600mmSS	12,00 2,00
16	1 1 1 1	**MILL FILTER** Capacity Q=52.000m3/hours Pedestal Type, Ventilator Rotary feeder Auger, complete with THE MILL DUST FILTER 2(24x14) =336 Bag •160x3600 MM Bag size 605m2 filtration area SUCTION FAN 14/45-800 Type 52.000m3/h 100°C ta 75kWengine 350mmSS pressure cooling impellerSKF twin Double chassis. 8 ad. Special Vibration and remotely block zero complete with fan speed control	
17	2	**HOIST** Q=5 ton , one of the mill on the rulman, to the plate The other mill elevator	

18	**1**	**BRIDGE CRANE** Engine and gearbox on the region It will work. Capacity Q=30 ton bridge Trolley overhead crane Openness BB=13.250mm , H=7.000mm Hook Height	
19	**1**	**PRODUCT JET FILTER** Capacity *160.000m3/hours* Prunings are collected the final cement place. 2X80.000 It may be. Filter six spiral cell wheel, Ventilator and klapecomplete with	
	1	***DEĞİRMEN FİLTRESİ*** •160x3600mm bag size 2419 m2 total filtration area Mikromak brand SUCTION FAN 14/45 -1250 Type 160.000m3/h 100°C ta 250kW engine 400mmSS pressure cooling impeller SKF twin dual chassis with 8 PCs. Special vibration and remotely block complete zero-speed controlled fan	
20		**ELEVATOR** Capacity Q=100 ton/hours BB=650mm, AA=27.100mm Reducer motor driven help together, with Reducer locked type, Single gal. Chain	37,26mt
21	**1**	**ELEVATOR** Capacity Q=100 TON/HOURS BB=650mm, AA=27.100mm Reducer motor driven help together, with Reducer locked type, Single gal. Chain	
22	**1** 1	**COOL BAND** CapacityQ=150 ton/hours B=315mm, L=9.500mm ⌟=7°, Ventilator 900m3/shours P=600mmSS Elevator-PC Cross-Silo	9,50mt
23	**1** 1	**COOL BAND** CapacityQ=150 ton/hours B=315mm, L=7.000mm ⌟=7°, Ventilator 900m3/hours P=600mmSS Elevator-PC Cross-Silo	7,00
24	**2**	DIRECTION POT Capacity Q=150 ton/hours Motor Control *D=Ø500mm, B=315mm*	
25	**2** 2	**ELEVATOR** Capacity Q=150 ton/hours B=315mm, L=16.000mm Ventilator 900m3/hours P=600mmSS ⌟=7°PZC Cross-silo	32,00
26 26,1 26,2 26,3 26,4	 4 4 4 4	**SILOS** CEMENT SILO D=Ø11.000mm, 1500 ton capacity L1=11.000mm, L2=8.700mm The Silo body plate and steel manufacturing Silo top jet filter 5000m3/hours Silo top level control Silo top max max level	 60 ton

26,5	4	Silo topexpansion klapesi	
26,7		Dozer Waltz	8 tk
26,8		Cool Band B=315mm	31 mm
26,9		Cool Band B=315mm	8 mm
26,10		Cool Band B=315mm	9 mm
26,11		Cool Band B=315mm	25 mm
26,12		Under the Silo blower	2 tk
26,13	1	Ventilator 2.000m3/hours, P=600mmSS	
26,14	1	Ventilator 900m3/ hours, P=600mmSS	
26,15	1	Ventilator 900m3/ hours, P=600mmSS	
26,16	1	Ventilator 1.500m3/hours, P=600mmSS	
27	**1**	**ELEVATOR** Capacity Q=200 ton/hours AA=25.700mm, B=800mm Reducer motor driven help together,with Reducer locked type.	
28		**PACKAGİNG**	
28,1	1	VIBRATING SIEVE Capacity Q=200ton/hours AA=1.000mm, BB=2.720mm Wire cross 6x6mm wire D=Ø2mm 2kW, 1.400d/minutes	
28,2	1	PACKAGING MACHINE Capacity Q=100 ton/hours 12 mammal pneumatic flow, Double-rotation, bag 2.200-2.400 PCs /hours Tolerance +%2 Drive P=2,2 kW Machine under dust collection bunker and grille	
28,3		SEARCH STORE (50 ton Capacity) Steel structure D=4.000mm,L1=5.000mm,L2=2.000mm Manufacturing	14 ton
28,4	1	Kali output band L=∟m, P=2,2kW	
28,5	1	Bag cleaning band p=0,55kW,1,5kW	
28,6		Bag Shredding P=2,2 kW	
28,7	1	Rubber *Band B=650mm, L=...mm*	
28,8	1	Diversion band P=1,1kW	
28,9	2	Truck Loading band L=⌜.mm, P=2,2kW moving back and forth P=2,2kW	
28,10		forward Back Up And Down L=⌝mm P=2,2kW	
28,11	1	SlidingKlapehand. D=Ø300mm	
28,12	1	SlidingKlapePno. D=Ø300mm	
29	**1**	**DUST COLLECTION SCREW CONVEYOR** Capacity Q=20ton/hours	
30	**1**	**PACKAGING JET FILTER** 30.000m3/hours, ventilator Filter Housing Capacity :30.000m3 Operating Temperature: 100°C Bag resistance temperature :150°C Air Supply : 6.6 atu	
		Cleaning system : jet - puls Output of emissions :max.25mg/Nm3 Powder type: cement-ash (Ash ratio%40) Filtration area :486m2 Filtration speed: 1,03 m3 m2/min Bag dimensions :Ø160x3000mm Bag pieces :324 Bag Type : %100 polyester needle filter bag-hydrophobic-impregnated	

		Bag cage : Ø160x3000mm(elektro galvanizcoated) Ventüriler : Portable, aluminum extrusion Filter pressure loss : max.120mmSS Casing pressure resistance : 0,1 bar Quenching valve :1 1/2" ASCO brand double acting Compressed air needs :0,40 m3/min,6,5 atü Bunker: the filter under the carrier feet ileimal has been the bunker Screw conveyor :Ø250mm spiral conveyor (engine reduce drive) Rotary valf :Ø300mm (enginereduce drive) The filter fan Mill filters (kal=50mm) insulation	500 m2
31	**2**	**CASTING FİLTER** 5.000m3/hours, ventilator complete with screw, Rotary feeder Capacity : 5000 m3/h Bunker, the fan, the cell wheel included (6x8)-3000 tpye 72 m2 complete with fan Control Panel included	
Item	Pcs	Decription	Amount
		Steel structure Roof Coating Plumbing installation	30 ton 800 m2 3.000kg
32	**4**	**BLOWER** 15m3/h, 650mmbar	350kg
33	**2**	**COMPRESSED AIR COMPRESSOR** Dryer included (3m3) 18m3/minutes 8 Bar 110 kW	1.500kg
34	**1**	**CILLER AT THE WATER COOLER** Water conditioner	500kg
35	1 set 1 set 1 set 1 set	MISCELLANEOUSSHOOTANDGASPIPES MISCELLANEOUSSHOOTSWEARPLATE MISCELLANEOUSEXPANSION JOINTS MISCELLANEOUS GAS KLAPELERİ	10.000kg 2.000kg
37	3 set	**PLACE WEIGHTBRİDGE** 80 Ton 16 m	

5. List of material storage capacity and period

Name of material	Type of storage place	Specification)	Qty	Storage capacity （t）	Storage period （day）
Clinker	Round silo	Φ4×14	3	3000	
Admixture	Round silo	Φ4×14	1	1000	
Gypsum	Pre-homogenizing bin	Φ4	1	500	
Cement	Round silo	Φ4×14	3	3000	
	Finished product store	24×48	1	1400	

6 . Brief introduction of processing procedure

6.1 Clinker and additives storage

This section Φ4m two round clinker silo with the size of the size of Φ4 × 14m, 14m × Φ4 size of the silo , and a mixture with the use of a plaster silo . Manageable speed electric belt balances under each silo will be used. Proportionally according to the needs Doğruçimentosonraklinkermodule , gypsum and additives on cement mill fed by belt conveyor .

Outside plaster block by PEX250 ezilmişaçıkstock , × 750 fine crushing -type crusher is stored and fed on bucket tarafındanΦ4m gypsum silo . Fed onto the stack silo katkıΦ4 × 14m contribution .

6.2 Cement Grinding

Mixing material , clinker , additives and alçıaçık cement mill circuit high fineness (: , : 16t / h capacity Φ2.2 × 11m size) and then fed . This system is the product of reasonable size and thinness complies with the requirements of class and a large surface area . The finished product is fed onto the chain conveyor and bucket by the cement silos .

6.3 Cement storage and packaging

Three silos (size : Φ4 × 14m) will be used for storage of cement . The bottom of a silo bulk loading machine. Fed by a bucket of cement mill, cement silos . Under the cement silos , cement screw is used to send conveyorsPacking system .

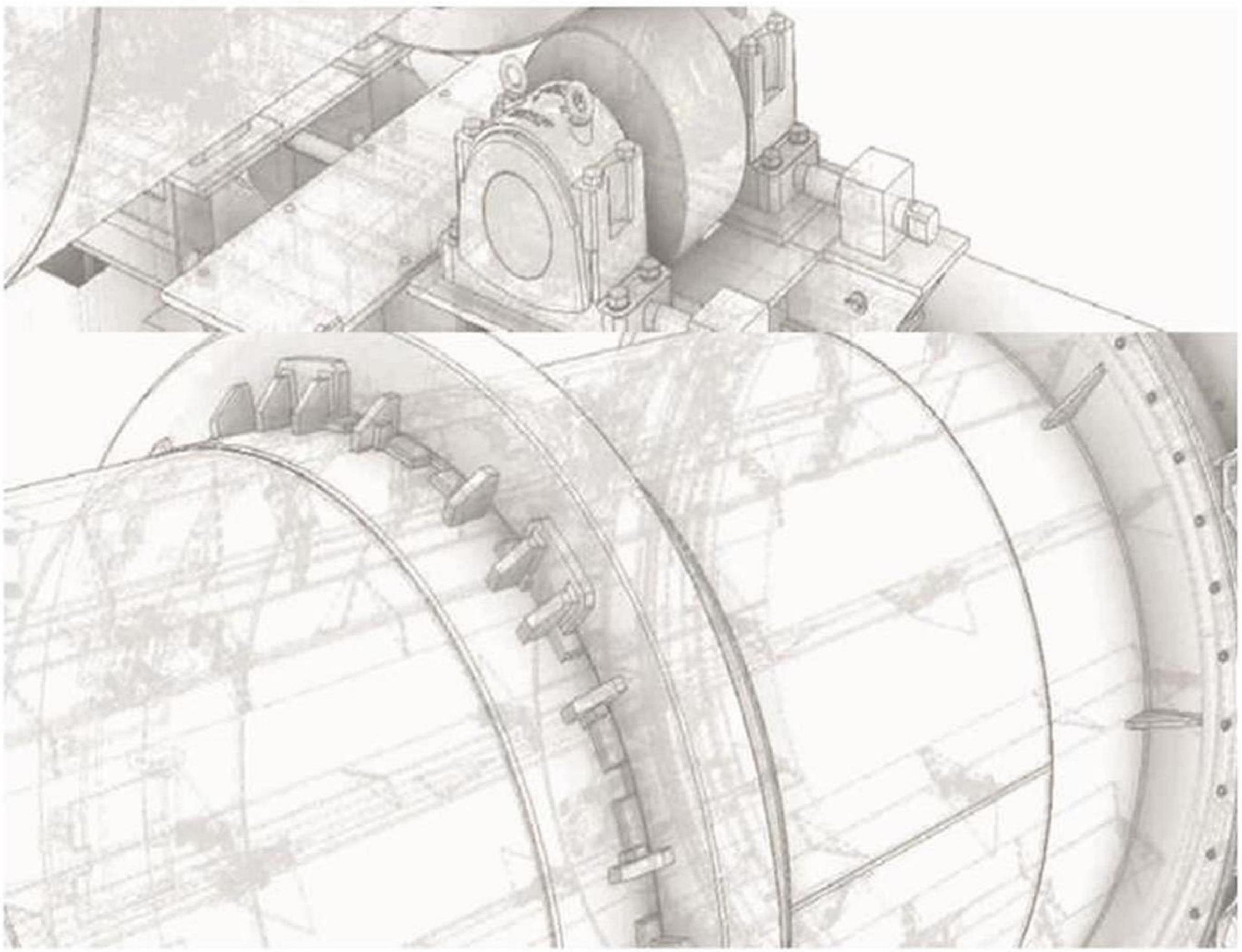
A fixed 2 - filler tube (capacity : 80t / h) will be used for packaging cement . This performance is a reliable wholesaler . Belt conveyor to be moved out of bagged cement and the finished product will be sent to the warehouse .

7. Estimate list for project investment

8. List of main technology economy parameters

No	Name of indexes	Unit	Quantity
1	Production scale and product types		
	Clinker	t/a	360000
	Cement	t/a	420000
3	Total weight of process equipment	ton	2200
4	Installed power	KW	6000
5	Production water consumption	m^3/d	3000
6	Net production water consumption	m^3/d	900
7	Total numbers of staff	person	20
	Where: production workers	person	80
8	Labor productivity	Per ton Cement person/year	7000
10	Construction period	Mounth	12
11	Period to reach the required production capacity	mounth	2

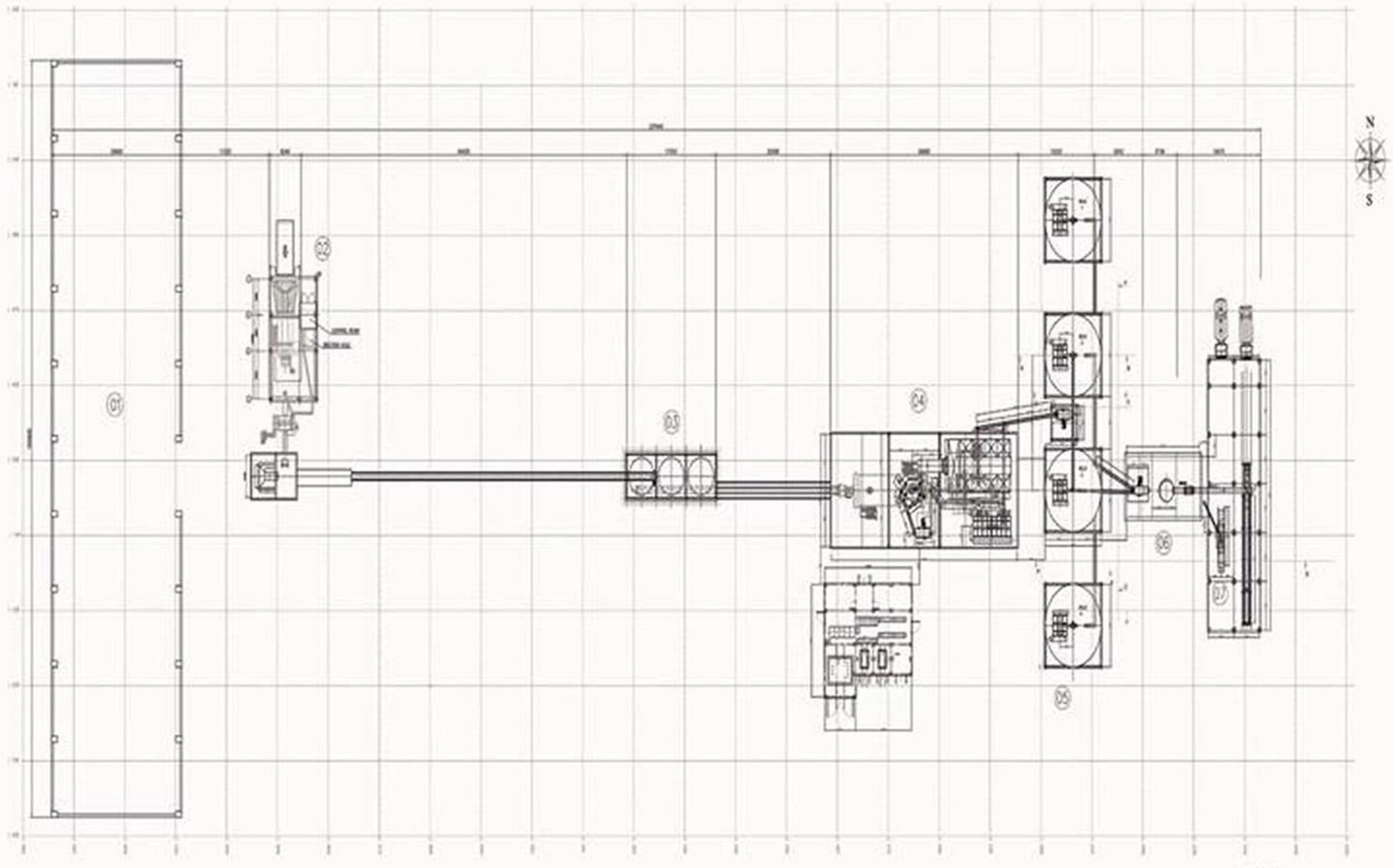
K BEŞ GAYRİMENKUL
DANIŞMANLIK
İnş. Taah. Tur. San. Ve Dış Tic. Ltd. Şti.

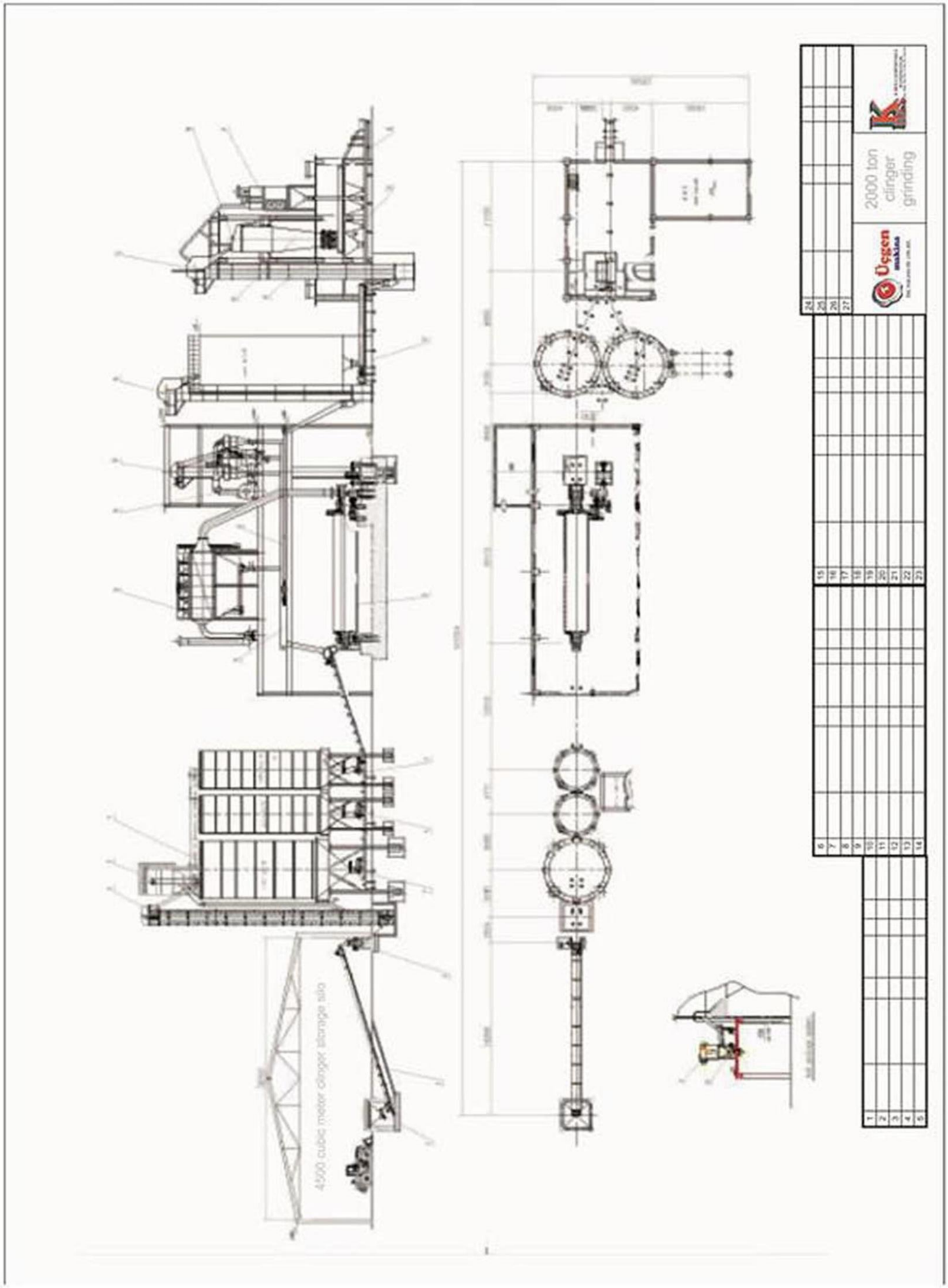


SUPPORTED BY
EEIG
EUROPEAN ECONOMIC CHAMBER OF TRADE,
COMMERCE AND INDUSTRY

K BEŞ GAYRİMENKUL DANIŞMANLIK İNŞ.TAAH.TUR.SAN.VE DIŞ TİC.LTD.ŞTİ.
Adres: Şenlikköy Mah. 6 Ekim Sok. No:3/4 Bakırköy / İSTANBUL Tel: +90 212 573 90 01 - k5@eeig.com.tr - kbesh01@gmail.com
İrtibat: Dumankaya Vizyon E-5 Karayolu İstiklal Cad. No:57 Kartal – İstanbul/2.Dumlupınar Cad. Koçoğlu İş Merkezi Kat:3/7 AFYON

2000 T/GÜNÇİMENTO FABRİKASI AKIŞ ŞEMASI




2000 ton clinger grinding
4500 cubic meter clinger storage silo

Stone Crushing Konkasörü

SUPPORTED BY
EEIG
EUROPEAN ECONOMIC CHAMBER OF TRADE,
COMMERCE AND INDUSTRY

Taş Kırma Konkasörü

K BEŞ GAYRİMENKUL DANIŞMANLIK İNŞ.TAAH.TUR.SAN.VE DIŞ TİC.LTD.ŞTİ.
Adres: Şenlikköy Mah. 6 Ekim Sok. No:3/4 Bakırköy / İSTANBUL Tel: +90 212 573 90 01 - k5@eeig.com.tr - kbesh01@gmail.com
İrtibat: Dumankaya Vizyon E-5 Karayolu İstiklal Cad. No:57 Kartal – İstanbul/2.Dumlupınar Cad. Koçoğlu İş Merkezi Kat:3/7 AFYON