Xinhai®
MINERAL PROCESSING EPC

# GOLD MINE

## MINERAL PROCESSING SOLUTION

**SHANDONG XINHAI MINING TECHNOLOGY & EQUIPMENT INC.** (836079)

www.xinhaimining.com

## Xinhai in Brief »»

Shandong Xinhai Mining Technology & Equipment Inc. is a stockholding high and new technology enterprise to provide "Turnkey Solution for Mineral Processing Plant" including design and research, machine manufacturing, equipment procurement, management service, mine operation, mine materials procurement & management as well as industry resources integration. Up to now, with 200 mine EPC projects, mining technologies and experience of 70 kinds of ores and 20 patents, Xinhai has established overseas offices in Sudan, Zimbabwe, Tanzania, Peru and Indonesia with products exported to more than 20 countries.

## Turnkey Solution for Mineral Processing Plant »»

### ■ Design and Research

Engineering consultant service, mineral processing test, mineral processing technological process, equipment selection, mineral processing plant design, construction drawing design, etc.

### ■ Complete Equipment Manufacturing and Procurement

Manufacturing and procurement of mineral processing equipment, mine supporting materials, tools for installation and maintenance, devices for test and chemical test.

### ■ Commissioning and Delivery

Guidance of plant construction and equipment installation, achievement of equipment commissioning, training of plant staff, providing of spare parts, plant consumables, equipment repair and maintenance, etc.

# Equipment Manufacturing

Vertical Lathe (7.5m)

Machine Manufacturing Workshop

Engineers Reviewing the Drawing

Numerical Control Cutting

Painting Workshop

Assembly Shop

# Cases

Tanzania

## Busolwa 1200tpd Gold Mine Project, Tanzania

**Ore type:** Rock gold

**Capacity:** 1200t/d

**Technical process:** Three stage one closed circuit crushing + one closed circuit grinding + all-slimed cyanidation.

Zimbabwe

## Iron Cap 700tpd Gold Mine Project, Zimbabwe

**Ore type:** Rock gold

**Capacity:** 700t/d

**Technical process:** Two stage one closed circuit crushing + two stage closed circuit grinding + gravity separation + all-slimed cyanidation.

Sudan

## Kush 500tpd Gold Mine Project, Sudan

**Ore type:** Rock gold

**Capacity:** 500t/d

**Technical process:** Two stage one closed circuit crushing + two stage grinding + gravity separation + all-slimed cyanidation.


## Gazar 720tpd Gold Mine Project, Mongolia

**Ore type:** Rock gold

**Capacity:** 720t/d

**Technical process:** Three stage one closed circuit crushing + two stage grinding + gravity separation + all-slimed cyanidation.


## Alitimad 700tpd Gold Mine Project, Sudan

**Ore type:** Rock gold tailings

**Capacity:** 700t/d

**Technical process:** One stage open circuit crushing + one stage closed grinding + all-slimed cyanidation + tailings dry stacking.


## Xinyuan 400tpd Gold Mine Project, Cambodia

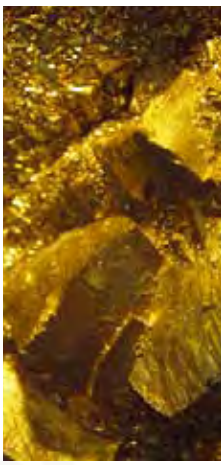
**Ore type:** Rock gold

**Capacity:** 400t/d

**Technical process:** One closed circuit crushing + one stage grinding + flotation + tailings dry stacking.

# About Gold Mine

## Gold Mine Types



Gold ore is generally divided into gravel ore and rock gold ore, among which gravel ore accounts for 20%.

Gravel ore refers to cuttings and gold grain, etc. crushed gradually from gold-bearing veins or gold-bearing rocks with mechanical and chemical weathering after primary gold ore comes out from earth surface. Then minerals with large specific gravity (such as gold grains) deposited on mountain slope, river bed and lake shore with transportation and separation of external force form a certain concentration, and those having industrial mining value are called sand gold deposits. Generally, 0.2% ~ 0.3g/$m^3$ is enough for mining.

Most of rock gold ore is polymetallic sulfide, which accounts for 25% of total gold ore. This type of gold ore with fine dissemination size has close relationship with pyrite and arsenopyrite, and its associated elements are silver, copper, lead, zinc, antimony, bismuth, etc. These elements are compact and symbiotic with fine dissemination size, which brings certain difficulties in mineral separation; they belong to refractory ores and generally adopt flotation method.

## Main Gold-bearing Minerals

Pyrite is not only sulfide mineral widely distributed in various types of gold deposits, but also is main gold-bearing mineral. Gold in pyrite mainly has two occurrence states: Visible gold and invisible gold. Visible gold contains included-gold, fissure-filled gold and intergranular gold, etc. Invisible gold contains super microscopic gold and lattice gold. Shape of super microscopic gold is irregular granular, strip and chain arranged in pyrite. Lattice gold can not only be Au instead of Fe into the crystal lattice, but also be Au instead of S into the crystal lattice.

Quartz is an important gold-bearing mineral after pyrite. Occurrence state of gold is fissure-filled gold, followed by included-gold and crystal fissure gold; it can also be structure channel gold.

Besides that, sulfide minerals such as arsenopyrite, orpiment, realgar, galena, sphalerite, chalcopyrite and stibnite are common gold-bearing minerals.

Clay mineral is also an important gold-bearing mineral. Since mineral content of clay mineral is higher in carlin-type gold deposits, gold partition in this type of mineral is higher, and the total content of gold is also higher.

# Beneficiation Method for Gravel Mine and Rock Gold Mine

## Beneficiation Method for Gravel Mine

Gold mineral processing method for gravel ore is consisted of preparation operation and beneficiation operation. Preparation operation consisted of crushing and screening will separate mineral grains containing gold from clay minerals; screening is for screening out mineral coarse particles excluding gold. Ores are enriched by gravity concentration equipment such as jigging, chute, shaking table after preparation operation.

Main beneficiation method for gravel ore is gravity concentration because placer gold is in coarse grain size (generally 0.074~2mm) with large specific gravity (generally 17.50~18.0) and gravity concentration is economic and simple. Gravity concentration equipment commonly adopts various types of chute, jigging and shaking table (often adopts for concentration).

## Beneficiation Method for Rock Gold Mine

Since gold has the nature close to sulfur and iron, in the primary deposit, gold is often associated with sulphide such as pyrite, chalcopyrite and arsenopyrite, among which pyrite is the most common gold-bearing mineral. Separating gold from ores actually is separating pyrite containing gold and some free native gold or other minerals containing gold.

Different mineral processing methods are adopted for different natures of various types of gold ores. Gravity concentration, flotation, amalgamation, cyanidation and new technologies appearing recently such as resin slurry method, carbon adsorption method and heap leaching are widely adopted.

## Grading Method for Common Rock Gold Ore

| Classifications | | Characteristics | Washability & Mineral Processing Methods |
|---|---|---|---|
| (1) Lithic gold-bearing ores | | More than 90% of ores is quartz. Metal mineral is native gold, almost without other sulfide. Most of gold grains are coarse grains. | Adopt gravity separation or amalgamation for the recovery of coarse grains and CIL for the recovery of fine grains. |
| Gold-bearing ores with less sulfide | (2) Gold has close symbiotic relationship with sulfide. | Main metal mineral is pyrite. Sulfide content is 1~5%. Main gangue is quartz. More than 60% of Native gold has close symbiotic relationship with sulfide. Most of gold grains are medium and fine grains. | Belong to free-milling ores. Mainly adopt cyanidation and flotation, and floating fine sand cyaniding process. |
| | (3) Gold has close symbiotic relationship with quartz. | Metal sulfide is less; more than 70% of gold has close symbiotic relationship with quartz.Average particle size is fine. | Mainly adopt cyanidation and flotation. Adopt amalgamation and gravity concentration as auxiliary methods to recover coarse gold. |
| (4) Auriferous quartz vein ores | | Mineral composition is similar to (2); main difference is that sulfide content is 5~15% and 75~99% of gold has symbiotic relationship with pyrite. | Easy flotation, gold recovery rate of 95% or above, but gold grade by flotation is low. |
| Pyrite auriferous quartz oxidized ores | (5) Partial oxidation | Main metal mineral is limonite, followed by a small amount of pyrite. Gangue is quartz.Gold exists in mineral fractures characterized by containing gold in iron hydroxide. | Mainly adopt gravity concentration (amalgamation) + cyanidation, also adopt flotation. |
| | (6) Complete oxidation | Do not contain sulfide. Most of gold exists in the gangue mineral and weathered metallic oxide residual particles. Ores contain clay. | Adopt gravity concentration or amalgamation for the recovery of coarse grain. Slime agitating cyanidation, ore sand percolation cyanidation. |

# Introduction of Main Beneficiation Methods

## Gravity Concentration

Gravity concentration is one of the oldest and the most common methods. In gravel ore, gold usually exists in monomer native gold form with size generally greater than 16 $t/m^3$ and big difference from gangue density, so gravity concentration is the most widely-used, the most effective and the most economical way. In vein gold, gravity concentration is not adopted as a part of joint gold-extracting process with seldom exclusive use. Generally in grinding and classification circuit, adopt jigging, spiral chute and shaking table, recover cleaved monomer coarse gold in advance for the sake of floatation and hydrogenation, and get qualified gold concentrate. This method is widely-used in small mine and local mining group.

Main equipment for gravity concentration is various types of chute, jigging and shaking table. In order to achieve high production, besides general gravity concentration equipment, there is other new equipment such as belt chute, Ross chute, circular jigging and placer gold centrifugal washing units.

## Amalgamation Method

Amalgamation can be divided into inner and outer type according to processing methods. Amalgamation is commonly adopted to separate gold from heavy concentrates at placer gold mine. While at vein gold mine, it is generally regarded as a part of combined processing to coordinate with flotation, gravity concentration and cyaniding, which is mainly used for collecting coarse monomeric gold.

To protect the environment from pollution and keep the workers' health, amalgamation shall be restricted for use. It has been forbidden in some foreign countries, and it is not commonly used in our country except for some individual and local small-scale gold mine.

## Floatation Method

Flotation is one of the most widely used methods to deal with gold vein ore in gold processing plant. In most cases, it is used for dealing with high recoverability sulfide mineral gold ore with remarkable effects. Since flotation can not only furthest concentrate gold into sulfide mineral concentrates but also abandon tailings with low mineral processing costs, it is also used for dealing with polymetallic gold ore, such as Au-Cu, Au-Pb, Au-Sb and Au-Cu-Pb-Zn-S. As for ore of this kind, flotation can effectively identify various gold-bearing sulfide concentrates, achieving comprehensive recovery of mineral resources. Moreover, for what is called “indissolvable ore” which can’t be treated with amalgamation or cyaniding method, combined processing including flotation is also needed. Certainly, flotation also has limitations. For ore which is course-embedded with gold particles more than 0.2mm and quartziferous gold ore without sulfide, it is difficult to use flotation since it’s hard to obtain stable flotation foam after slurry mixing.

Since flotation can only furthest concentrate gold into sulfide mineral concentrates instead of obtaining finished gold, a small number of gold processing plants adopt single flotation process. Generally, it is adopted as one process in combined processing.

## Cyaniding Gold Extraction

Cyaniding gold extraction is a method which uses cyanide water solution as solvent, leaching Au in gold ore and then extracting Au from gold leaching solution.

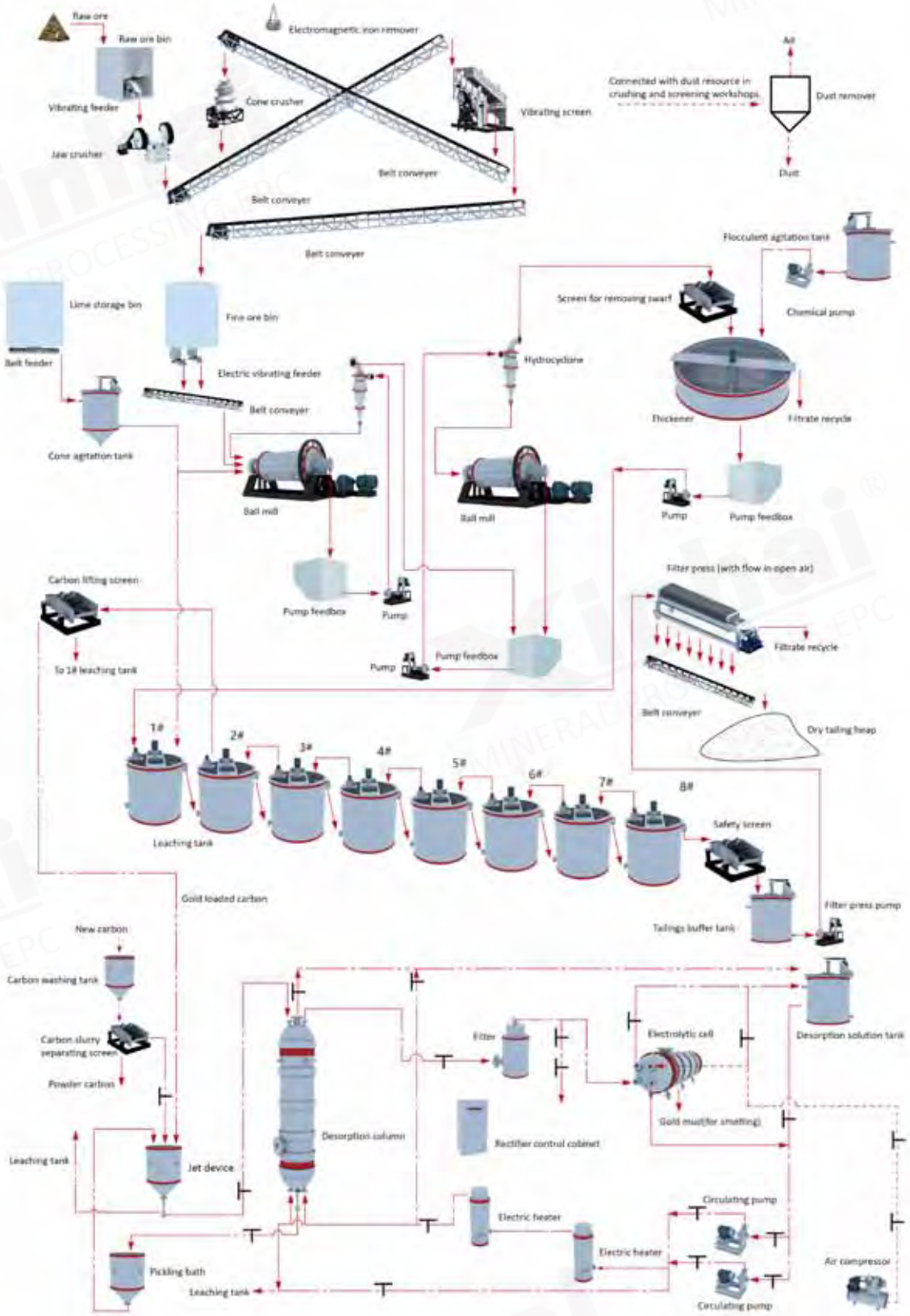
Cyaniding gold extraction mainly includes the following two steps:

(1) Cyanide leaching: Under the circumstance of thin cyaniding solution with oxygen (or oxidizing agent), Au in gold ore reacts with cyanide, generating $Au^{+}$ complex, dissolving into the solution and receiving leaching agent.

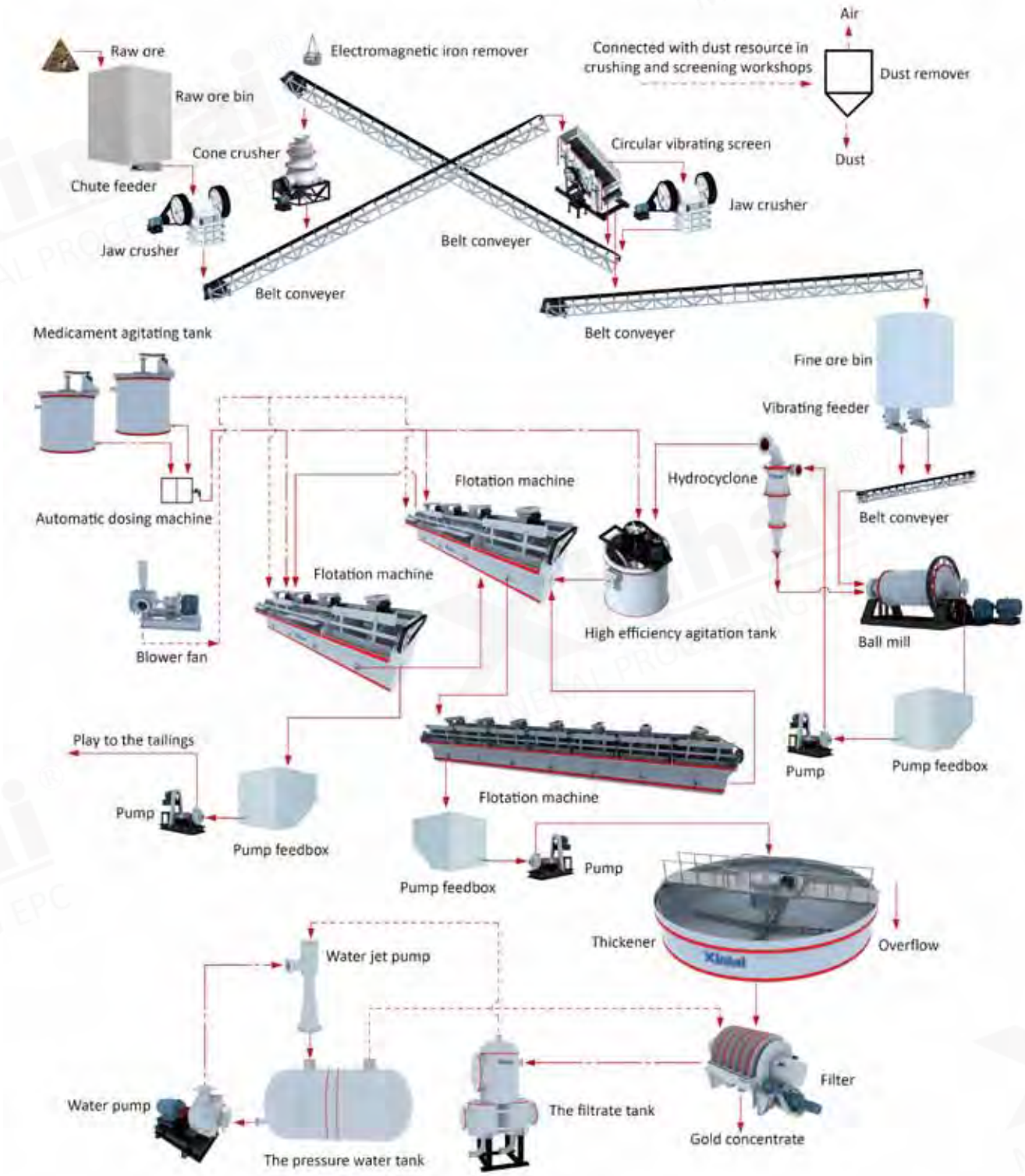
Au cyanide leaching processing is divided into two types of tank leaching and dumping leaching cyaniding. Tank leaching cyaniding is a traditional Au leaching method, and it is divided into infiltration and agitation cyaniding. Dumping leaching is a new technique emerging in recent 20 years, and it is mainly used for treating low-grade oxidized ore.

(2) Sedimentary gold extraction: Extracting Au from cyanide leaching solution. The processing methods include zinc displacement (zinc wire displacement and zinc dust displacement, active carbon adsorption (carbon in slurry CIP and carbon in leaching CIL), ion-exchange resin (resin in slurry RIP and RIL), electrowinning deposition and magnetic carbon process. Zinc dust (wire) displacement is a traditional Au extracting method, which has been widely applied in gold mine. Carbon in slurry CIP is primary method in newly-built gold mine with gold production amount accounted for more than 50% of the world gold production amount.

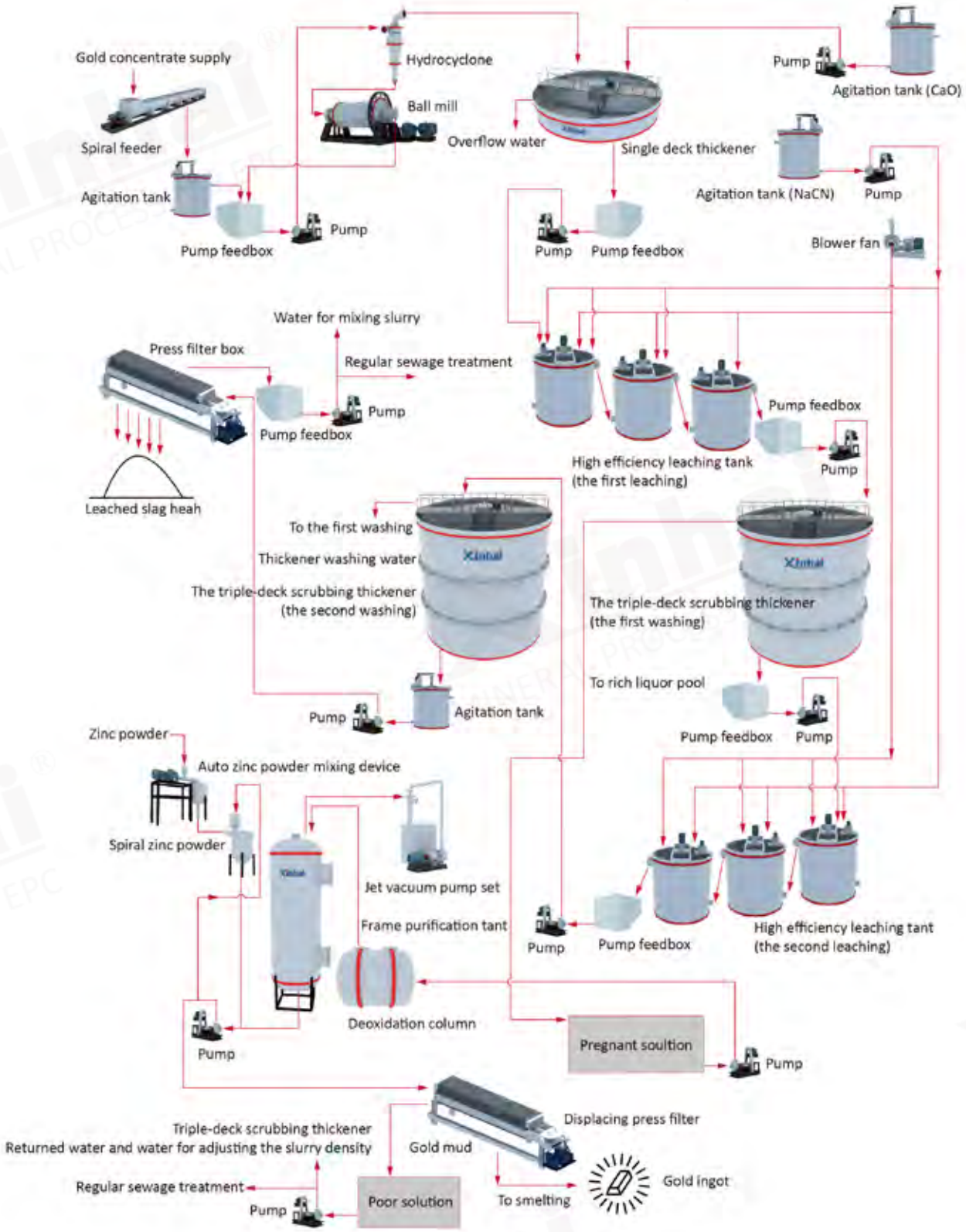
# Flow Chart of Gold All Sliming CIL Plant



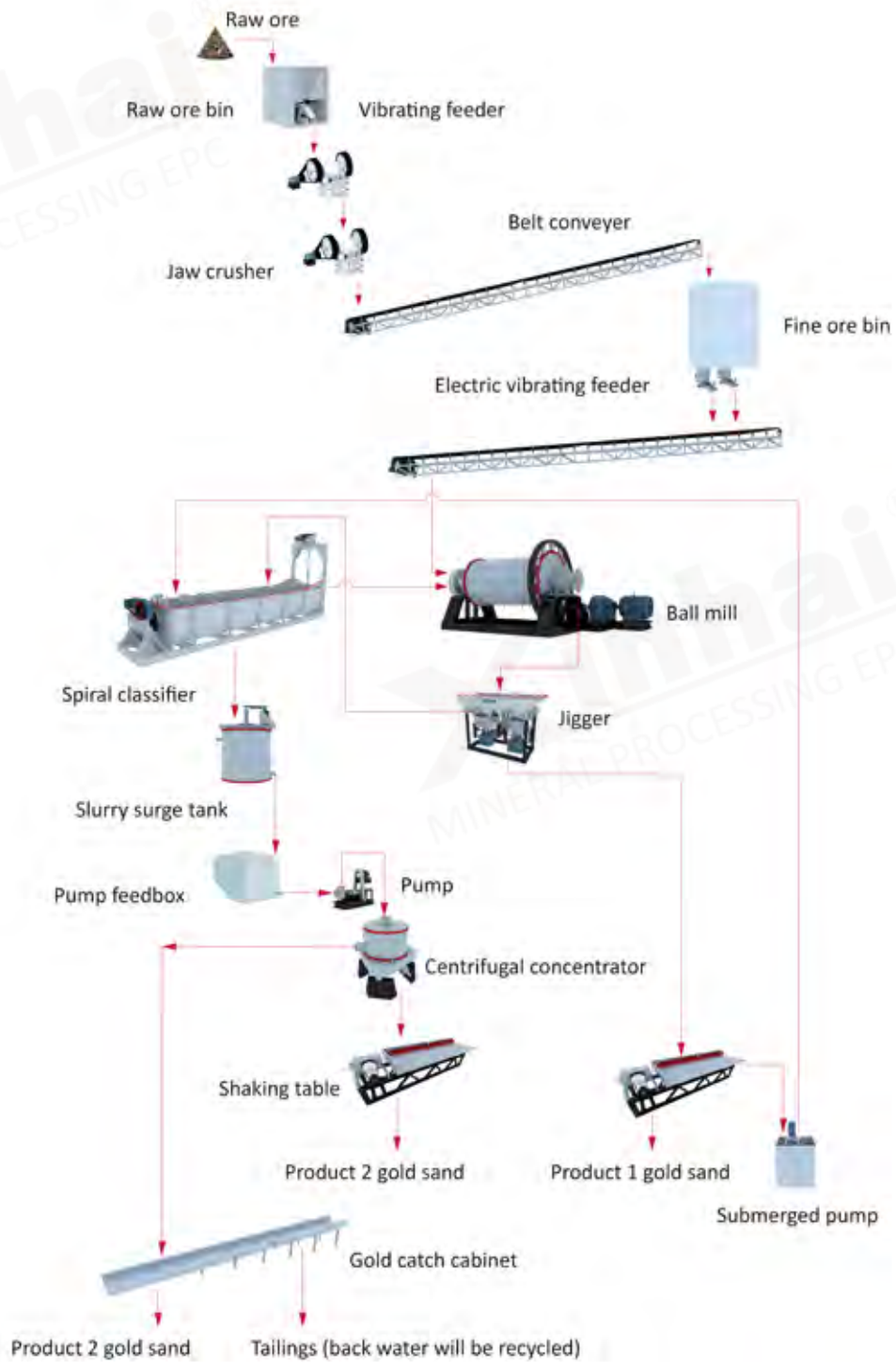
# Flow Chart of Gold Floatation Plant



# Production Flow Cyaniding Plant of Gold Concentrate



# Flow Chart of Gold Gravity Separation Plant



# CATALOGUE

Part Equipment in Gold Ore Plant

# Jaw Crusher

## Principle

Through cyclical movement of mobile jaw that swings around fixed jaw, materials between the two jaws are extruded, which causes crushing effect.

## Features

Large reduction ratio, optimum design of cavity, and high crushing efficiency.

High revolution speed of mobile jaw and curved jaw plate make high production capacity.

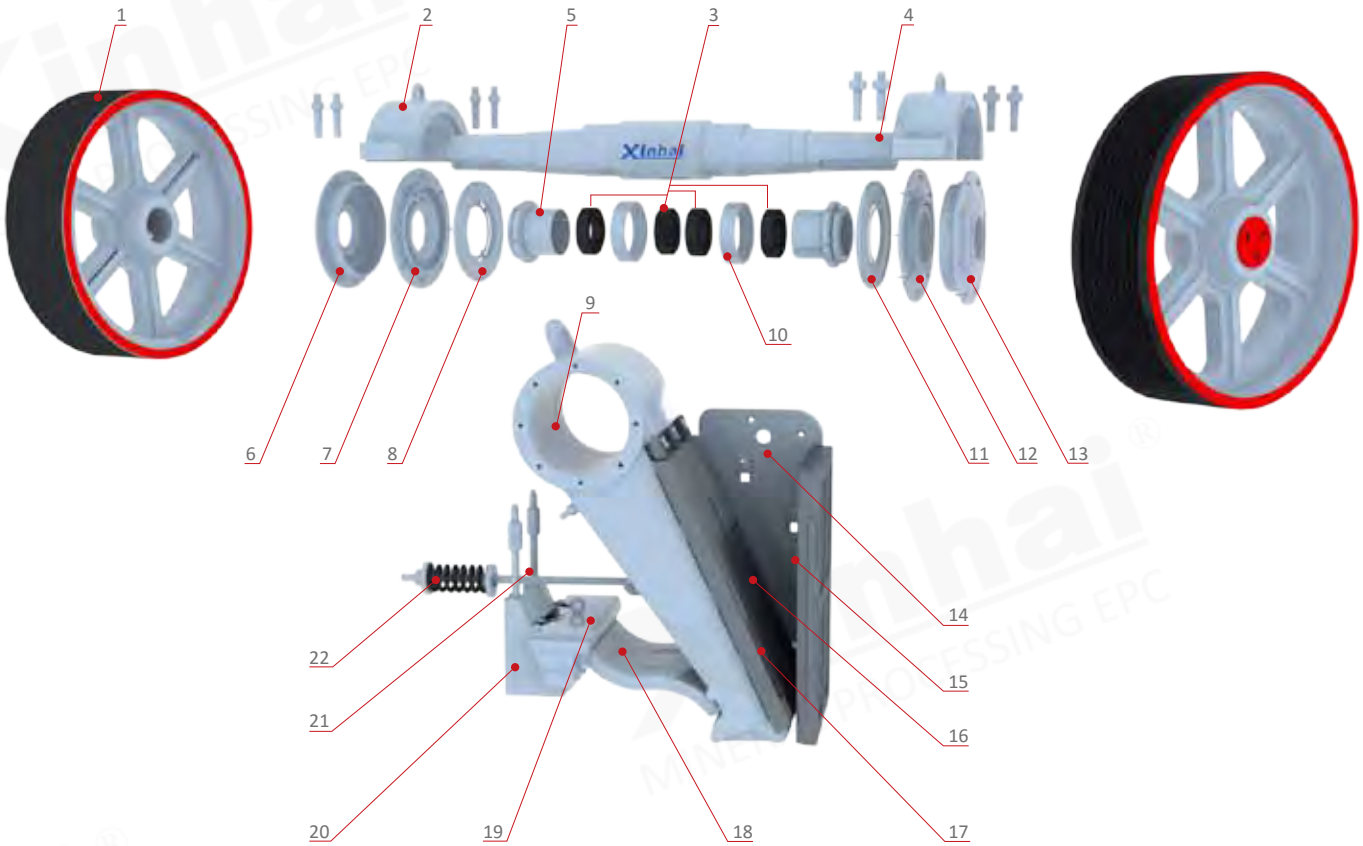
## Application

Jaw crusher is widely used in mineral processing, building materials, silicate and chemical industry. In mineral processing industry production, it is commonly used for coarse & intermediate crushing of hard or medium hard ores.

## Technical Parameters

| Type | Model | Inlet Dimension (mm) | Outlet Dimension (mm) | Max. Feed Size (mm) | Capacity (t/h) | Rotating Speed of Eccentric Wheel (r/min) | Motor Power (kW) | Overall Dimension (mm) | Weight (kg) |
|---|---|---|---|---|---|---|---|---|---|
| Ordinary Crushing | PE100×150 | 100×150 | 5~20 | 80 | 0.5~2 | 300 | 2.2 | 525×535×605 | 230 |
| | PE150×250 | 150×250 | 10~40 | 125 | 2~6 | 300 | 5.5 | 875×745×935 | 1100 |
| | PE200×350 | 200×350 | 10~50 | 160 | 6~10 | 300 | 7.5 | 1080×1060×1088 | 1600 |
| | PE250×400 | 250×400 | 20~60 | 210 | 8~26 | 300 | 15 | 1108×1090×1392 | 2396 |
| | ZGPE250×400 | | | | 8~16 | | | 1430×1316×1296 | 2800 |
| | PE250×500 | 250×500 | 20~80 | 210 | 13~45 | 300 | 18.5 | 1360×1450×1440 | 3100 |
| | ZGPE250×500 | | | | 13~21 | | | 1425×1420×1417 | 3300 |
| | PE400×600 | 400×600 | 40~100 | 350 | 25~64 | 275 | 30 | 1650×1748×1520 | 5800 |
| | ZGPE400×600 | | | | 14~36 | | | 1716×1736×1653 | 6500 |
| | PE500×750 | 500×750 | 50~120 | 400 | 30~80 | 275 | 45 | 1900×1876×1821 | 9000 |
| | ZGPE500×750 | | | | | 250 | | 1980×2024×1920 | 12000 |
| | PE600×900 | 600×900 | 75~200 | 480 | 56~192 | 250 | 75 | 2280×2245×2320 | 16700 |
| | ZGPE600×900 | | | | | | | 2280×2245×2320 | 14500 |
| | ZGPE750×1060 | 750×1060 | 80~235 | 630 | 108~256 | 250 | 90 | 2450×2472×2795 | 28000 |
| | ZGPE900×1200 | 900×1200 | 95~265 | 750 | 186~398 | 200 | 110 | 3335×3182×3025 | 50000 |
| | ZGPE1100×1400 | 1100×1400 | 150~300 | 950 | 250~600 | 193 | 132 | 3900×3040×3875 | 70000 |
| | ZGPE1200×1500 | 1200×1500 | 160~320 | 1000 | 280~700 | 190 | 160 | 3800×3040×4150 | 82000 |
| Fine Crushing | PEX150×750 | 150×750 | 18~48 | 120 | 8~25 | 320 | 15 | 1210×1572×1045 | 2800 |
| | ZGPEX150×750 | | 10~40 | | | | | 1240×1586×1025 | 3500 |
| | PEX200×1000 | 200×1000 | 20~55 | 160 | 12~50 | 330 | 22 | 1860×1385×1200 | 5200 |
| | ZGPEX250×750 | 250×750 | 20~60 | 210 | 10~45 | 320 | 30 | 1751×1400×1515 | 4900 |
| | PEX250×1000 | 250×1000 | 20~50 | 210 | 15~50 | 330 | 30 | 1550×1990×1370 | 6500 |
| | ZGPEX250×1000 | | | | | | | 1650×1958×1460 | 6800 |
| | ZGPEX250×1200 | 250×1200 | 20~60 | 210 | 20~60 | 320 | 45 | 1650×2170×1465 | 9000 |
| | ZGPEX300×1300 | 300×1300 | 25~65 | 250 | 20~80 | 330 | 55 | 1980×2456×1740 | 11500 |

Note: ZG-Cast steel shell crusher; X-Fine crushing crusher.




## Separation Drawing of Jaw Crusher

| | | | |
|---|---|---|---|
| 1. Flywheel | 2. Bearing cap | 3. Fastening liner | 4. Self-aligning roller bearing |
| 5. Eccentric shaft | 6. Outer end cap | 7. Inner end cap | 8. End cap |
| 9. Moving jaw | 10. Inner shaft sleeve | 11. End cap | 12. Inner end cap |
| 13.Outer end cap | 14. Upper side guard | 15. Fixed dental plate | 16. Lower side guard |
| 17. Moving dental plate | 18. Bracket | 19. Adjusting base | 20. Adjusting wedge |
| 21. Support base | 22. Spring | | |

## Other Crushing Equipment

Mobile Crushing and Screening Plant

Spring Cone Crusher

Single Cylinder Hydraulic Cone Crusher

Hammer Crusher

Impact Crusher

# Circular Vibrating Screen

## Principle

Circular vibrating screen is mainly composed of screen box, screen mesh, vibrator, damping springs, etc. Mounted on the side plate of the screen box and driven by the motor through V belt, the vibrator rotates, generates centrifugal force, and drives the vibration of the screen box, which is the vibrating object with the motion likely circular movement trail. During the period, materials with the particle size smaller than the diameter of sieve pore will fall down to the lower layer, and become screen underflow. Materials with the particle size larger than the diameter of sieve pore will be discharged from the outlet through continuous jumping. Ultimately, the screening is finally completed.

## Features

The motion trail of this kind of vibrating screen is similar to a circle, and therefore, it is referred to as circular vibrating screen. As a kind of high-efficiency new vibrating screen with multi layers, circular vibrating screen has the following features:

Vibrator with eccentric shaft and eccentric block enables stable operation and highly efficient screening.

Step out of materials stuck in the mesh prevents sieve blocking.

Low stress damping spring enables low noise during operation.

Ultra-heavy large clearance bearings enable low operating temperature and long service life.

The frame structure of ring-grooved rivet and plate-type screen box enables high structural strength of screen frame.

World renowned wear-resistant rubber mesh can be provided.

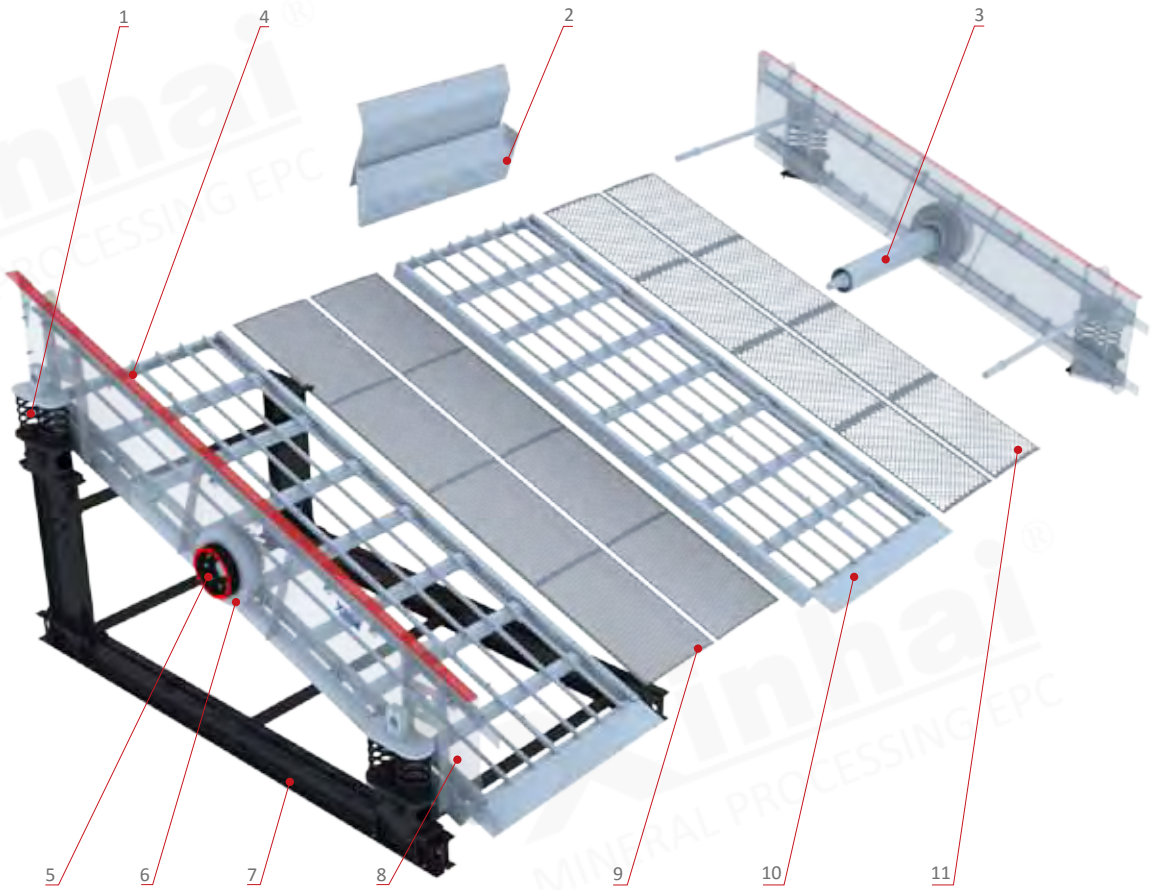
## Application

Applicable for material classification in the industries such as mineral processing, coal dressing, construction materials, electric power and chemical engineering; applicable for the dewatering, desliming, medium drainage, etc.

## Technical Parameters

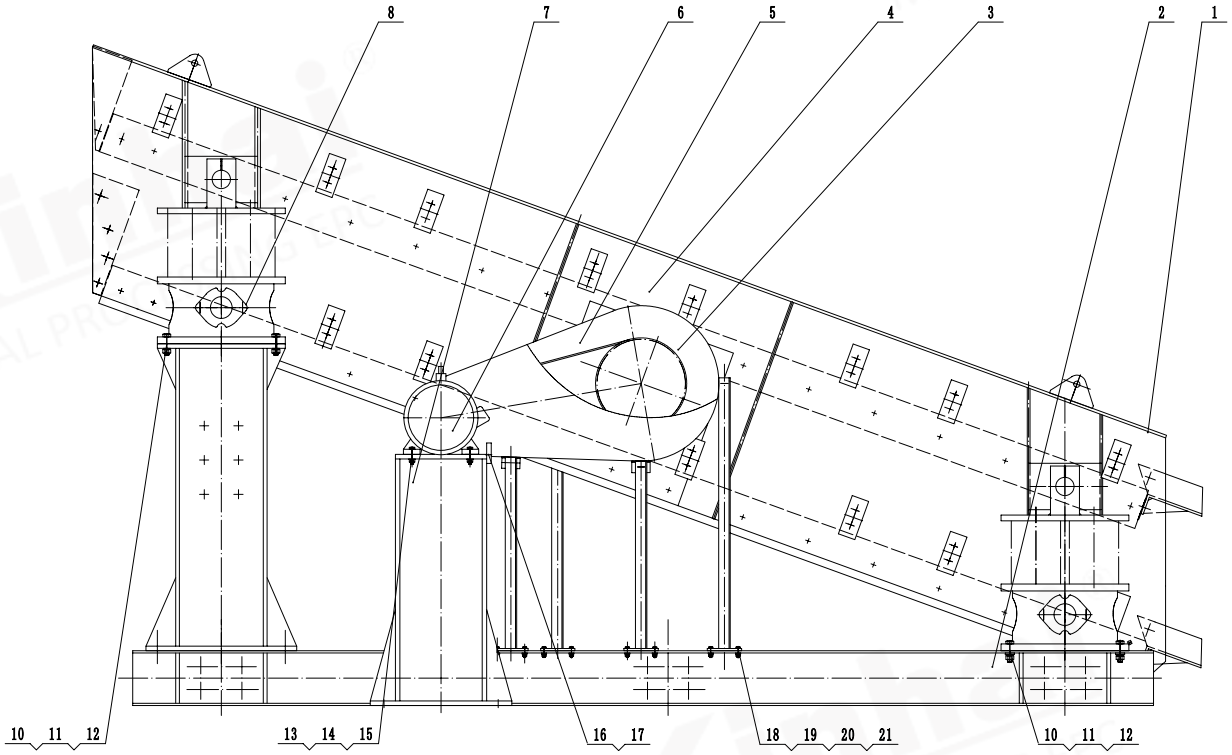
| Model | Screen Surface | | | Max. Feed Size (mm) | Capacity (t/h) | Motor | | Weight (kg) |
|---|---|---|---|---|---|---|---|---|
| | Area ($m^2$) | Dip Angle (° ) | Mesh Size (mm) | | | Model | Power (kW) | |
| YA1236 | 4.3 | 20 | 6~50 | 200 | 80~240 | Y160M-4 | 11 | 4905 |
| 2YA1236 | | | | | 80~240 | Y160M-4 | | 5311 |
| YA1530 | 4.5 | | | | 80~240 | Y160M-4 | | 4675 |
| YA1536 | 5.4 | | | | 100~350 | Y160M-4 | | 5137 |
| 2YA1536 | | | | 400 | 100~350 | Y160L-4 | 15 | 5624 |
| YAH1536 | | | 30~150 | | 160~650 | Y160M-4 | 11 | 5621 |
| 2YAH1536 | | | 30~150；6~50 | | 160~650 | Y160L-4 | 15 | 6045 |
| YA1542 | 6.5 | | 6~50 | 200 | 110~385 | Y160M-4 | 11 | 5515 |
| 2YA1542 | | | 6~50 | | 110~385 | Y160L-4 | 15 | 6098 |
| YA1548 | 7.2 | | 6~50 | | 120~420 | Y160L-4 | | 5918 |
| 2YA1548 | | | 6~50 | | 120~420 | Y160L-4 | | 6321 |
| YAH1548 | 7.2 | | 30~150 | 400 | 200~780 | Y160L-4 | | 6842 |
| 2YAH1548 | 7.2 | | 30~150 ； 6~50 | | 200~780 | Y160L-4 | | 7404 |
| YA1836 | 6.5 | | 30~150 | 200 | 140~220 | Y160M-4 | 11 | 5205 |
| 2YA1836 | 6.5 | | 30~150 | | 140~220 | Y160L-4 | 15 | 5946 |
| YAH1836 | 6.5 | | 30~150 | 400 | 220~910 | Y160M-4 | 11 | 5900 |
| 2YAH1836 | 6.5 | | 30~150；6~50 | | 220~910 | Y160L-4 | 15 | 6353 |
| YA1842 | 7.6 | | 6~150 | 200 | 140~490 | Y160L-4 | 15 | 5829 |
| 2YA1842 | 7.6 | | 6~150 | | 140~490 | Y160L-4 | 15 | 6437 |
| YAH1842 | 7.6 | | 30~150 | 400 | 450~800 | Y160L-4 | 15 | 6352 |
| 2YAH1842 | 7.6 | | 30~150 ； 6~50 | | 450~800 | Y160L-4 | 15 | 7037 |
| YA1848 | 8.6 | 20 | 6~50 | 200 | 150~525 | Y160L-4 | 15 | 6289 |
| 2YA1848 | 8.6 | | | 200 | 150~525 | Y160L-4 | 15 | 6624 |
| YAH1848 | 8.6 | | 30~150 | 400 | 250~1000 | Y160L-4 | 15 | 7122 |
| 2YAH1848 | 8.6 | | 30~150 ； 6~50 | 400 | 250~1000 | Y160L-4 | 15 | 7740 |
| YA2148 | 10 | | 6~50 | 200 | 180~630 | Y180M-4 | 18.5 | 9033 |
| 2YA2148 | 10 | | 6~50 | 200 | 180~630 | Y180L-4 | 22 | 10532 |
| YAH2148 | 10 | | 13~200 | 400 | 270~1200 | Y180M-4 | 18.5 | 10430 |
| 2YAH2148 | 10 | | 30~150 ； 6~50 | 400 | 270~1200 | Y180L-4 | 22 | 11190 |
| YA2160 | 12.6 | | 6~80 | 200 | 230~800 | Y180M-4 | 18.5 | 9926 |
| 2YA2160 | 12.6 | | 6~50 | 200 | 230~800 | Y200L-4 | 22 | 11249 |
| YAH2160 | 12.6 | | 30~150 | 400 | 350~1500 | Y200L-4 | 30 | 12490 |
| 2YAH2160 | 12.6 | | 30~150 ； 6~50 | 400 | 350~1500 | Y200L-4 | 30 | 13858 |
| YA2448 | 11.5 | | 6~50 | 200 | 200~700 | Y180 M -4 | 18.5 | 9834 |
| YAH2448 | 11.5 | | 6~50 | 400 | 310~1300 | Y200L-4 | 30 | 11830 |
| 2YAH2448 | 11.5 | | 30~150；6~50 | 400 | 310~1300 | Y200L-4 | 30 | 13012 |
| YA2460 | 14.4 | | 6~50 | 200 | 260~780 | Y200L-4 | 30 | 12240 |
| 2YA2460 | 14.4 | | 6~50 | 200 | 260~780 | Y200L-4 | 30 | 13583 |
| YAH2460 | 14.4 | | 30~150 | 400 | 400~1700 | Y200L-4 | 30 | 13096 |
| 2YAH2460 | 14.4 | | 30~150 ； 6~50 | 400 | 400~1700 | Y200L-4 | 30 | 14455 |

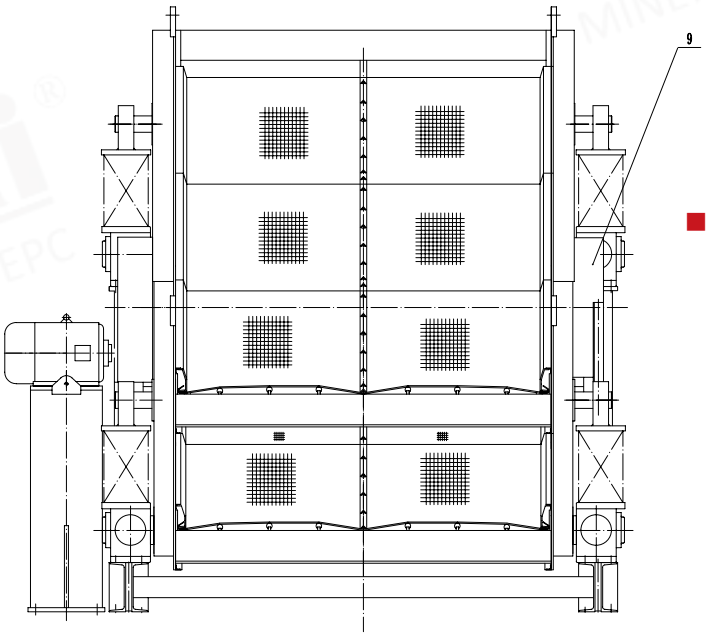
Note: "YA" Single layer "YA"/ "2YA" Double layer "2YA"/ "YAH" Single layer heavy screen "YAH"/ "2YAH" Double layer heavy screen "2YAH".




## Separation Drawing of Circular Vibrating Screen

1. Spring support device
2. Upper back shield
3. YA110 vibrator
4. Upper screen surface bracket
5. Belt pulley
6. Balance wheel
7. Support base
8. Lateral plate
9. Steel plate punching screen
10. Upper screen surface bracket
11. Knit screen mesh




## Structure Drawing of Circular Vibrating Screen

1. Screen box
2. Bearing underframe
3. Vibrator
4. Belt pulley guard assembly
5. V belt C-2720
6. Motor belt pulley assembly
7. Motor bearing frame
8. Srping bearing device
9. Balance wheel guard assembly
10. Bolt
11. Nut
12. 24
13. Bolt
14. Nut
15. Washer
16. Set screw
17. Nut
18. Bolt
19. Nut
20. Washer
21. Washer

## Other Screening Equipment

Circular Vibrating Screen

Auto Centering Vibrating Screen

Mining Single Shaft Vibrating Screen

DZS Linear Vibrating Screen

High-Efficiency High-frequency Dewatering Screen

High-Frequency Fine Mesh Vibrating Screen

# Wet Energy-saving Grid Ball Mill

## Principle

The main component is a cylinder with diameter and length at a reasonable proportion. Driven by the transmission device, the cylinder rotates with the materials fed from the cylinder inlet and crushed by the falling impacts and autogenous grinding of the steel balls and ores in the cylinder. Due to the continuously feeding materials, Materials are pushed to the outlet by the pressure, and the grinded materials are discharged from the cylinder outlet. Qualified materials flow from the cylinder outlet. In wet grinding, the materials are taken out by the water flow. There is a grid installed in the outlet of the mill with low slurry surface, which can reduce the ore over-grinding, and prevent the steel ball out. Under the same production conditions, production capacity of grid mill is larger with rolling bearing and significant energy conservation.

## Features

Large double-row self-aligning rolling bearing with less friction force is used to replace sliding bearing, and easy to start with energy saved by 20-30%.

Corrugated lining plate is used to increase the contact surface of ball and ore, strengthen the grinding, lift the ores, and reduce the energy consumption.

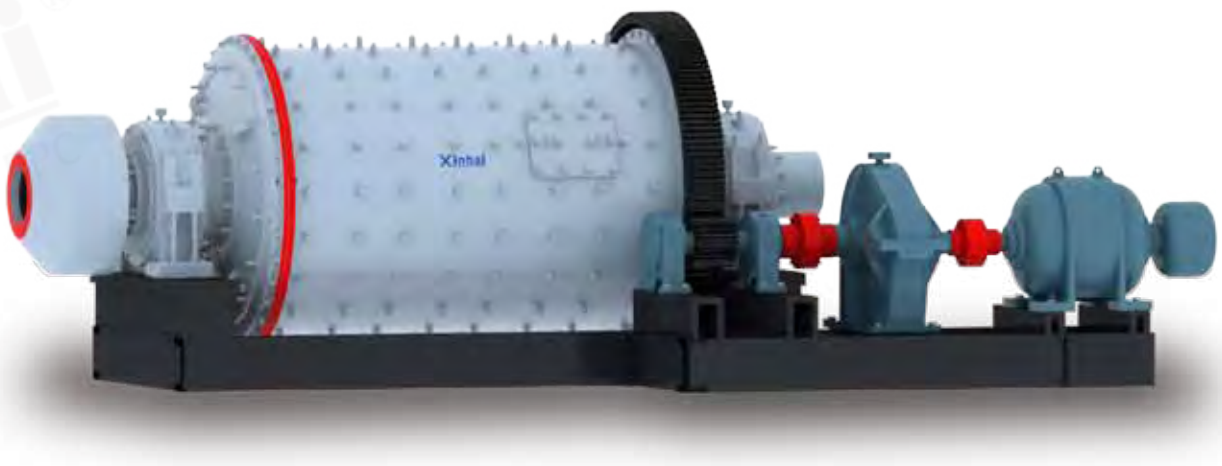
Overall frame is adopted for small size ball mill (Dia < 2.1m) which is much more convenient for civil work and installation;

Large ore outlet and large capacity.

Oil mist lubrication device guarantees the lubrication of all gears.

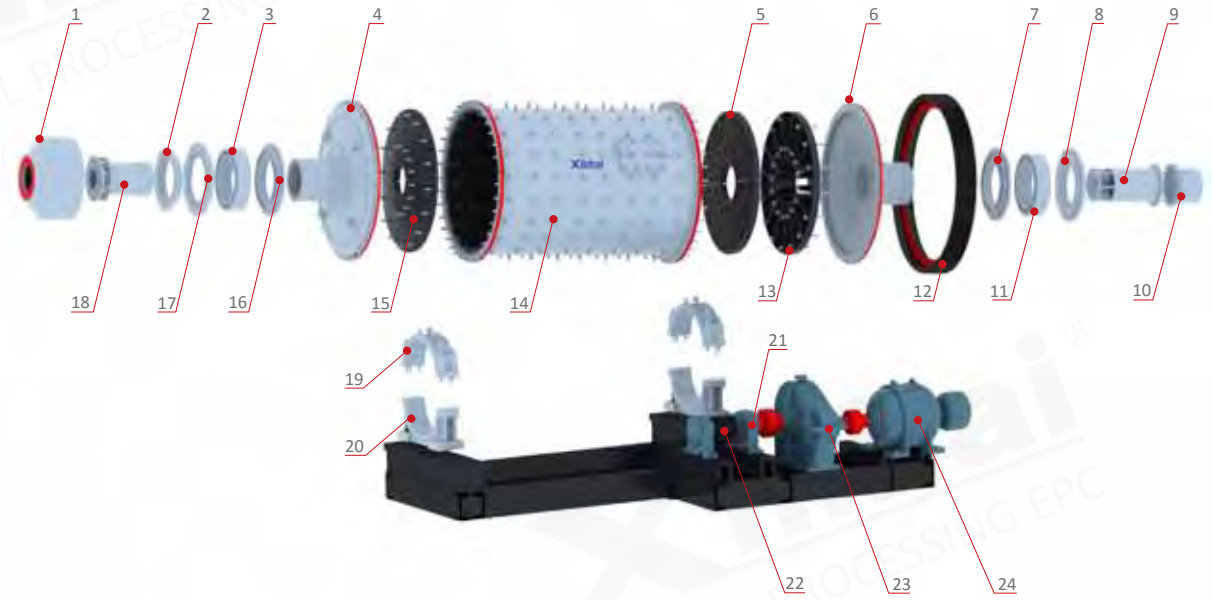
## Application

Generally used in grinding ores with larger particle size.



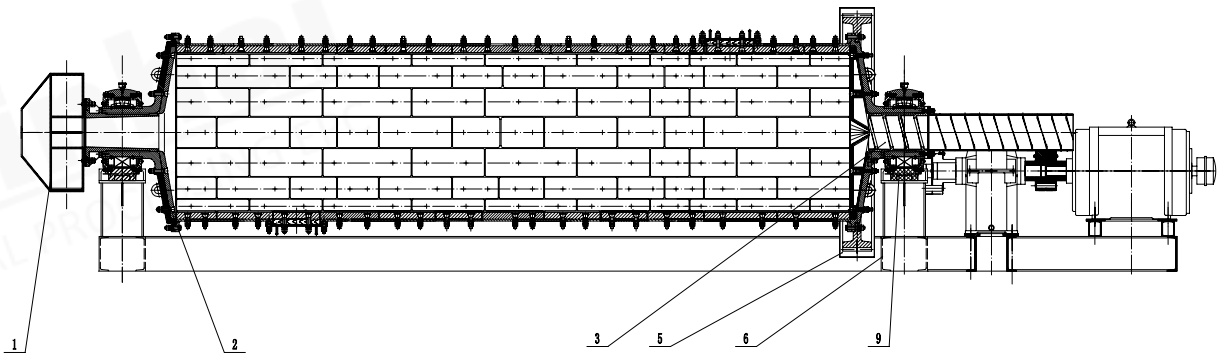
## Technical Parameters

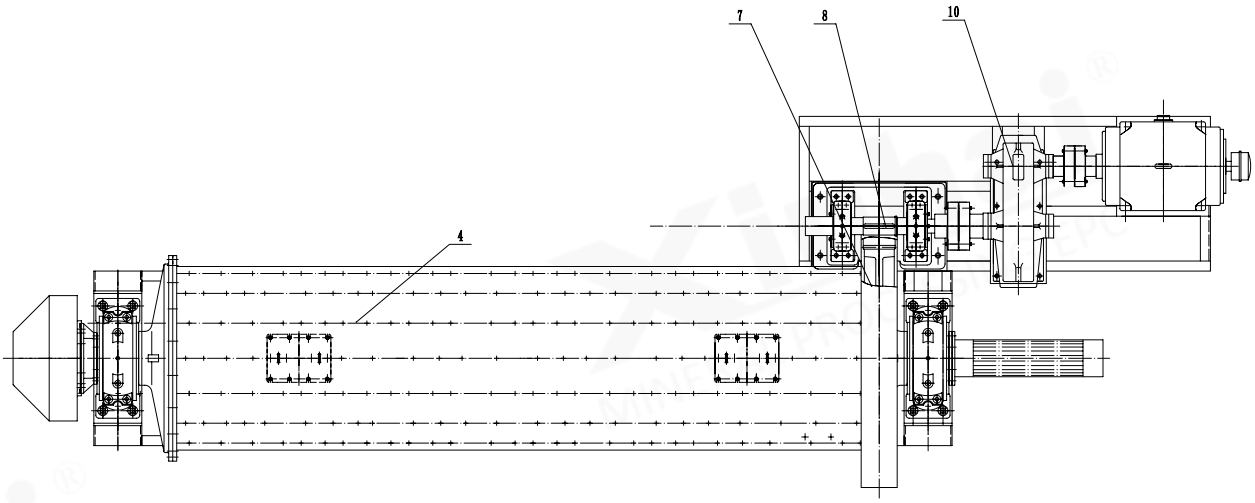
| Model | Cylinder Diameter (mm) | Cylinder Length (mm) | Motor Model | Motor Power (kW) | Length (mm) | Width (mm) | Height (mm) | Capacity (t/h) | Effective Volume ($m^3$) | Max. Ball Load (t) | Weight (kg) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MQGg 1212 | 1200 | 1200 | Y200L2-6 | 22 | 3512 | 2076 | 1620 | 0.17~4.1 | 1.14 | 2.4 | 9610 |
| MQGg 1224 | 1200 | 2400 | Y280M-8 | 45 | 5745 | 2352 | 1778 | 0.26~6.15 | 2.4 | 4.6 | 12692 |
| MQGg 1240 | 1200 | 4000 | JR117-8 | 80 | 7990 | 2210 | 2262 | 0.34~8.3 | 3.8 | 7.8 | 15932 |
| MQGg 1515 | 1500 | 1500 | Y280M-8 | 45 | 5740 | 3075 | 2280 | 1.4~4.5 | 2.2 | 5 | 17125 |
| MQGg 1530 | 1500 | 3000 | JR117-8 | 80 | 7253 | 3070 | 2280 | 2.8~9 | 5 | 10 | 21425 |
| MQGg 1536 | 1500 | 3600 | JR126-8 | 110 | 8595 | 3185 | 2280 | 3~11 | 5.4 | 11.4 | 24213 |
| MQGg 1545 | 1500 | 4500 | JR127-8 | 130 | 9680 | 3254 | 2370 | 3.5~12.5 | 7 | 12 | 27346 |
| MQGg 1830 | 1800 | 3000 | JR136-8 | 180 | 8250 | 3620 | 2785 | 4.5~27 | 6.65 | 14 | 31850 |
| MQGg 1836 | 1800 | 3600 | JR136-8 | 180 | 8866 | 3683 | 2785 | 4.5~29 | 8.2 | 13.8 | 35467 |
| MQGg 1845 | 1800 | 4520 | JR137-8 | 210 | 9808 | 3683 | 2785 | 5~35 | 10.2 | 19 | 38909 |
| MQGg 1856 | 1800 | 5620 | JR137-8 | 210 | 10909 | 3683 | 2785 | 6~40 | 12.2 | 22 | 41681 |
| MQGg 1870 | 1800 | 7020 | JR138-8 | 245 | 12404 | 3783 | 2735 | 7~50 | 15 | 31.5 | 45166 |
| MQGg 2122 | 2100 | 2200 | JR128-8 | 155 | 7135 | 4137.7 | 3083 | 5~29 | 6.6 | 20 | 38340 |
| MQGg 2130 | 2100 | 3000 | JR136-8 | 180 | 8220 | 4220 | 3083 | 6.5~36 | 9 | 27 | 43100 |
| MQGg 2136 | 2100 | 3600 | JR137-8 | 210 | 9154.5 | 4320 | 3433 | 7.5~42 | 10.8 | 23.5 | 45833 |
| MQGg 2140 | 2100 | 4000 | JR137-8 | 210 | 9654 | 4320 | 3083 | 7.5~45 | 12.8 | 22.5 | 47262.4 |
| MQGg 2145 | 2100 | 4500 | JR137-6 | 280 | 10350 | 4253 | 3125 | 10~50 | 13.5 | 23.6 | 52648 |
| MQGg 2230 | 2200 | 3000 | JR137-8 | 210 | 8220 | 3864 | 3183 | 7.5~45 | 9.8 | 20.6 | 44600 |
| MQGg 2430 | 2400 | 3000 | JR138-8 | 280 | 9023.5 | 4836.4 | 3490 | 7.2~92 | 11.5 | 22.5 | 59544.5 |
| MQGg 2436 | 2400 | 3600 | JR138-8 | 320 | 9604.5 | 4836.4 | 3490 | 8~100 | 13.8 | 25.5 | 63932.5 |
| MQGg 2442 | 2400 | 4200 | JR138-8 | 320 | 10204.5 | 4836.4 | 3490 | 8~110 | 16 | 30 | 67370 |
| MQGg 2721 | 2700 | 2100 | JR138-8 | 245 | 8300 | 4786.4 | 3495 | 7.2~84 | 10.7 | 23 | 66743 |
| MQGg 2727 | 2700 | 2700 | JR137-6 | 280 | 8901 | 4786.4 | 3490 | 7~110 | 13.8 | 29 | 71030 |
| MQGg 2730 | 2700 | 3000 | JR1410-8 | 320 | 9610 | 5000 | 3495 | 8~115 | 15.3 | 32 | 83909.2 |
| MQGg 2732 | 2700 | 3200 | JR1410-8 | 320 | 10724 | 5000 | 3620 | 8~120 | 15.7 | 32 | 88073 |
| MQGg 2736 | 2700 | 3600 | JR158-8 | 380 | 10409 | 5150 | 3620 | 12~145 | 17.7 | 37 | 95300 |
| MQGg 2740 | 2700 | 4000 | JR158-8 | 380 | 10609 | 5150 | 3620 | 12.5~152 | 19 | 42 | 98454 |
| MQGg 2745 | 2700 | 4500 | JR1510-8 | 450 | 11534 | 5200 | 3670 | 13~160 | 22 | 40 | 100016 |
| MQGg 2747 | 2700 | 4700 | JR1510-8 | 475 | 11779 | 5571 | 4175 | 13~170 | 23 | 45 | 101645 |
| MQGg 2760 | 2700 | 6000 | JR1512-8 | 630 | 13299 | 5540.6 | 5140 | 15~200 | 30 | 60 | 119546 |
| MQGg 2836 | 2800 | 3600 | JR1510-8 | 400 | 10964 | 5350 | 3670 | 13~160 | 19.7 | 41 | 106350 |
| MQGg 3231 | 3200 | 3100 | TDMK630-36 | 630 | 12750 | 6750 | 5150 | 14~180 | 22.5 | 45 | 115430 |
| MQGg 3245 | 3200 | 4500 | TDMK800-36 | 800 | 13896 | 7200 | 5152.5 | 95~110 | 32.8 | 65 | 147588 |
| MQGg 3645 | 3600 | 4500 | TDMK1250-40 | 1250 | 18280 | 7700 | 5496 | 115~170 | 41.5 | 76 | 195727 |

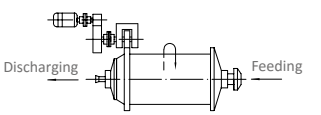



## Separation Drawing of Wet Energy-saving Grid Ball Mill

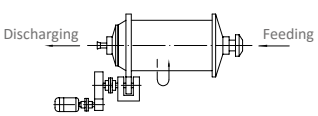
| | | | |
|---|---|---|---|
| 1. Feeder | 2. Sealed cap | 3. Bearing | 4. Feed end cap |
| 5. Grid plate | 6. Feed outlet cap | 7. Gland | 8.Gland |
| 9. Grid discharging hole | 10. Discharging connector | 11. Bearing | 12. Big gear wheel |
| 13. Feed steel plate | 14. Grid cylinder | 15. End lining plate | 16. Gland |
| 17.Gland | 18. Feed inlet | 19. Bearing cap | 20. Bearing seat |
| 21. Pinion bearing seat | 22. Pinion | 23. Reducer | 24. Motor |




Right-Handed Transmission Layout Drawing




Left-Handed Transmission Layout Drawing

## Structure Drawing of Wet Energy-saving Grid Ball Mill

1. Feeder
2. Feed part
3. Discharge part
4. Cylinder
5. Gear cover
6. Rack
7. Big gear
8. Pinion
9. Rolling bearing assembly
10. Drive part

## Other Grinding Equipment

High-efficiency Autogenous Mill
Wet Energy-saving Overflow Ball Mill
Cone Grid Ball Mill
Cone Overflow Ball Mill
Wet Grid Ball Mill
Wet Overflow Ball Mill
Wet Rod Mill
Wet Long-cylinder Ball Mill
Special Vertical Mill for Graphite
MTM Raymond Mill






# XC II Classification & Concentration Hydrocyclone

## Principle

Under the pressure, the slurry goes into the shell in involute direction through feeding pipe, and does rotational motion in the shell. With larger centrifugal force, coarse particles or dense particles in slurry are driven to the periphery of rotational flow, and then discharged by dust-setting nozzle as setting sand. With smaller centrifugal force, the fine particles are in rotational flow center and move upward along the liquid flow, finally discharged by overflow pipe as overflow.

## XC II Classification Hydrocyclone

The hydrocyclone designed by Xinhai is world advanced. The involute feeding of the inlet is more conducive to increase the centrifugal force, to improve the classification results, and to reduce the wear of feeding box greatly.

## Features

It is lined with wear-resistant rubber molded part. The involute feeding of the inlet reduces the turbulence, makes a smooth movement of liquid inside the cyclone, and therefore improves the classification. With rational length proportion of cylinder and insert depth of overflow pipe, the hydrocyclone has high-efficiency classification effect. It is especially suitable for classification operation. In medium and large mines, it can replace spiral classifiers, by which the capacity of ball mill can be increased by 10%-15%.

## XC II Concentration Hydrocyclone

The latest hydrocyclone developed by Xinhai is suitable for dry tailings stacking. It has the features of unique inlet structure, more reasonable cylindrical section height and cone section angle, further optimized insert depth of overflow pipe, high concentration efficiency and density, underflow density of 75%, small overflow particle size, and obvious effect in dry tailings stacking application.

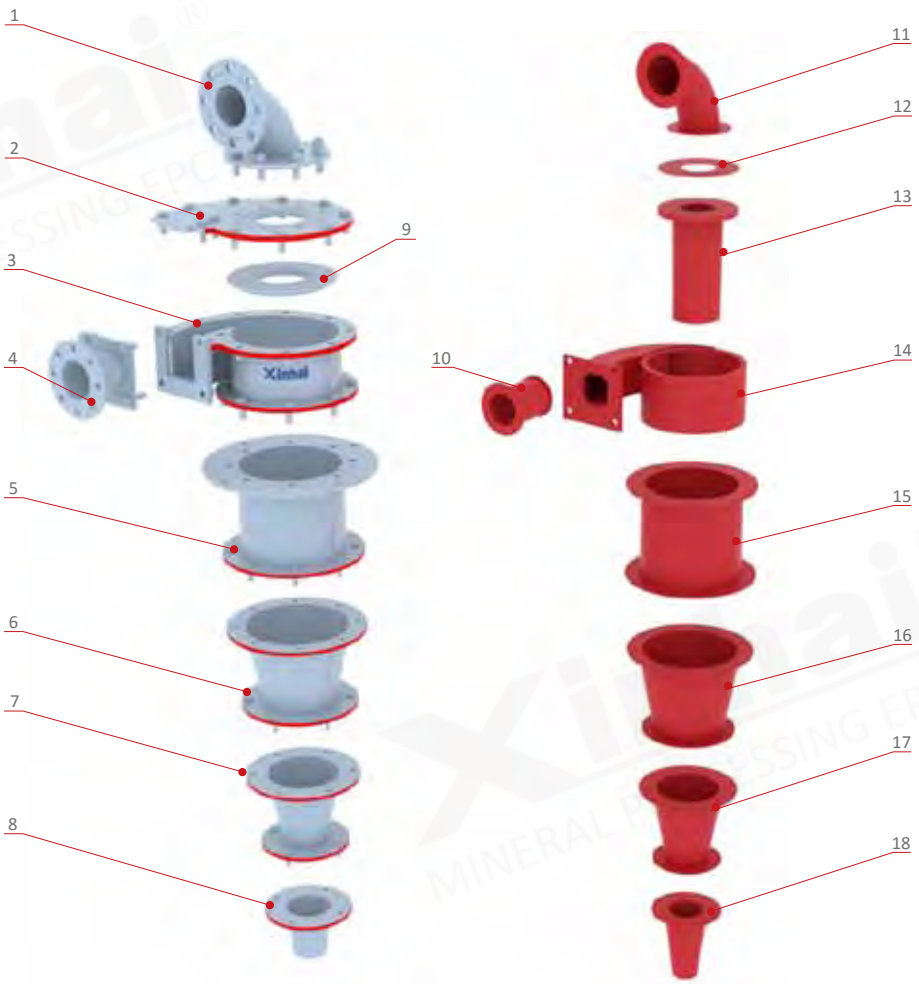
## Technical Parameters of XC II Classification Hydrocyclone

| Model | Spec. | Processing Capacity ($m^3/h$) | Partition Size (μm) | Diameter of Overflow Port (mm) | Diameter of Dust-Setting Nozzle (mm) | Inlet Pressure (MPa) |
|---|---|---|---|---|---|---|
| XC II F 150 | 150 | 10~23 | 25~74 | 30~50 | 8~22 | 0.06~0.15 |
| XC II F 200 | 200 | 17~38 | 28~80 | 40~65 | 16~32 | |
| XC II F 250 | 250 | 24~53 | 30~82 | 65~100 | 16~40 | |
| XC II F 300 | 300 | 40~100 | 36~90 | 65~120 | 20~40 | |
| XC II F 350 | 350 | 56~118 | 40~100 | 80~120 | 30~70 | |
| XC II F 375 | 375 | 74~157 | 42~105 | 90~135 | 30~70 | |
| XC II F 450 | 450 | 90~192 | 44~110 | 100~150 | 30~70 | |
| XC II F 500 | 500 | 128~300 | 50~115 | 130~220 | 35~100 | |
| XC II F 550 | 550 | 155~368 | 52~120 | 140~240 | 35~100 | |
| XC II F 600 | 600 | 200~468 | 57~125 | 160~260 | 65~110 | |
| XC II F 660 | 660 | 237~524 | 60~130 | 180~280 | 80~150 | |

Note: The actual parameters vary with model selection results.

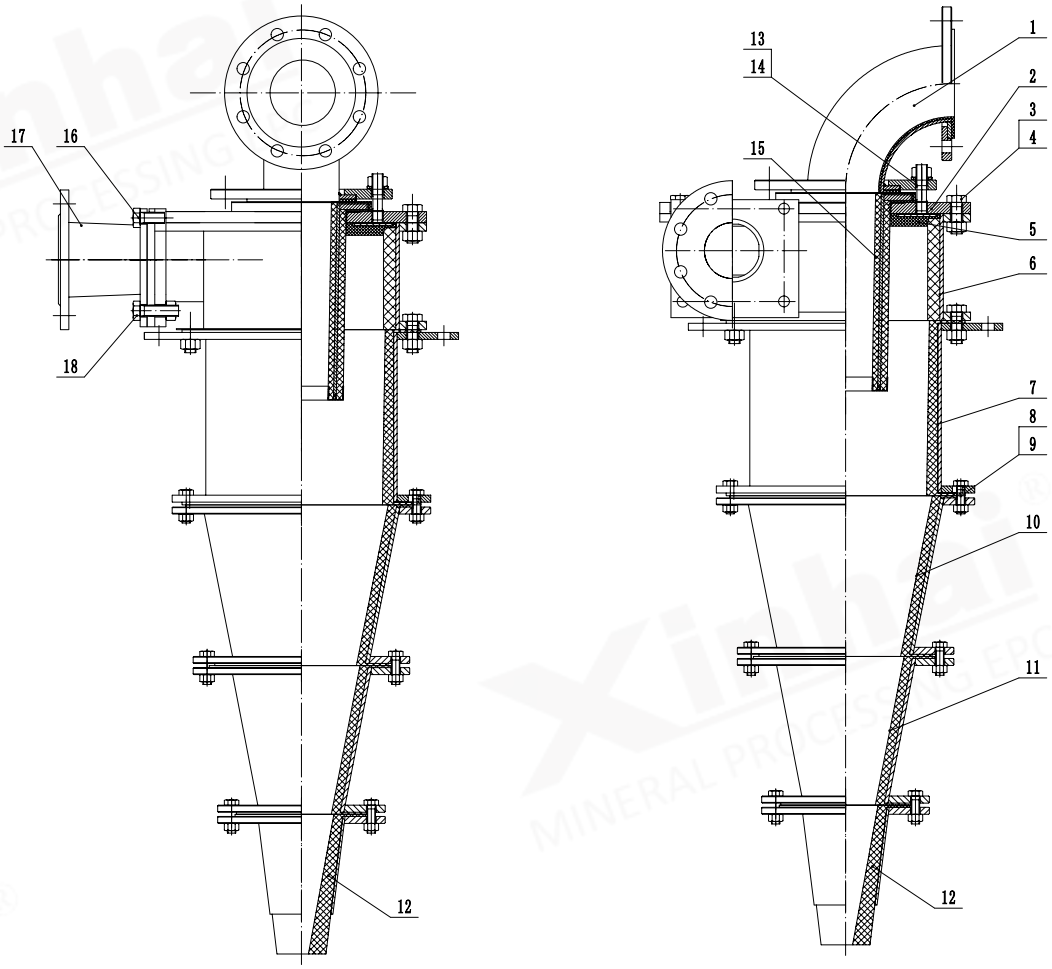
## Technical Parameters of XC II Concentration Hydrocyclone

| Model | Spec. | Processing Capacity ($m^3/h$) | Partition Size (μm) | Diameter of Overflow Port (mm) | Diameter of Dust-Setting Nozzle (mm) | Inlet Pressure (MPa) |
|---|---|---|---|---|---|---|
| XC II N150 | 150 | 11~17 | 25~74 | 38、45 | 8~22 | 0.08~0.15 |
| XC II N200 | 200 | 19~31 | 28~80 | 50、62 | 16~32 | |
| XC II N250 | 250 | 30~47 | 30~82 | 62、75 | 16~40 | |
| XC II N300 | 300 | 43~69 | 36~90 | 75、93 | 20~40 | |
| XC II N 350 | 350 | 54~85 | 40~100 | 86、105 | 30~70 | |
| XC II N400 | 400 | 76~120 | 42~105 | 100、119 | 30~70 | |
| XC II N450 | 450 | 89~138 | 44~110 | 100、120 | 30~70 | |




## Separation Drawing of XC II Classification & Concentration Hydrocyclone

1. Overflow bend
2. Feed boxupper cap
3. Feed box shell
4. Feed connector shell
5. Cylinder shell
6. Upper cone shell
7. Lower cone shell
8. Sink spit shell
9. End cap
10. Feeding Joint rubber parts
11. Overflow bend rubber
12. Gasket
13. Overflow pipe
14. Feed box rubber parts
15. Cylinder rubber parts
16. Upper cone rubber lining
17. Lower cone rubber lining
18. Sink spit rubber parts




## Structure Drawing of XC II Classification & Concentration Hydrocyclone

1. Overflow elbow
2. Upper cover of feeding box
3. Hexagon head bolt
4. Hexagon nut
5. Upper liner of feeding box
6. Feed box
7. Cylinder
8. Hexagon head bolt
9. Hexagon nut
10. Upper cone
11. Lower cone
12. Sand setting nozzle
13. Double end stud
14. Flat washer
15. Overflow pipe
16. Hexagon head bolt
17. Feeding joint
18. Hexagon bolt

## Other Classifying Equipment

XC I Hydrocyclone
XC III Hydrocyclone
XC IV Hydrocyclone

High Weir Spiral Classifier
Submerged Spiral Classifier





# Double-impeller Leaching Agitation Tank

## Principle

Dragged and agitated by the double impellers, the slurry flows from the top to the bottom, spreads through the damping plate, blends with air at the bottom of the shaft with upward circulation, and finally turns to be suspension mixture.

## Features

Smooth ore current movement, even slurry mixture, and low dynamic consumption.

The air gets into the tank though the hollow shaft transmission, and spreads on average by the rotation of the impeller.

Compact structure and easy maintenance.

The impeller has rubber liner with low circle speed and long service life.

This machine is produced with technology imported from America.

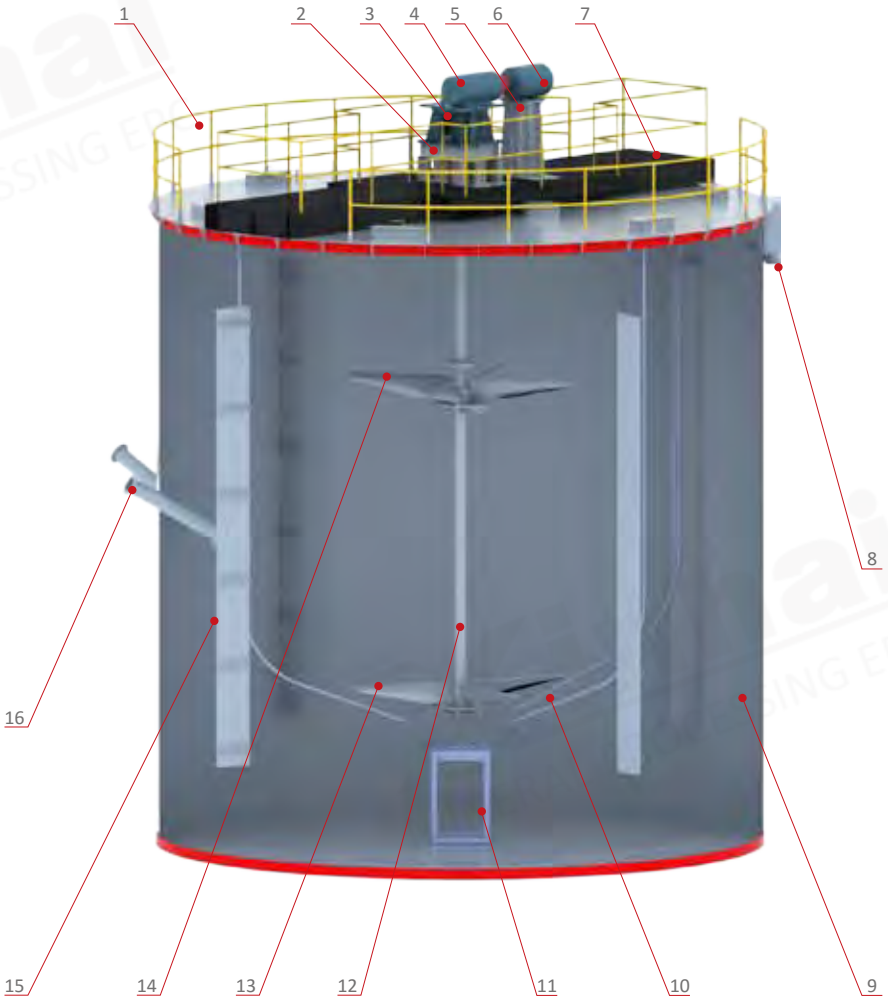
With multi air feeding for the inflation system.

## Application

This series agitation tank is used for the agitation, leaching and carbon adsorption in the gold cyanidation plant with more than 90% of slurry with the particle size of -200 meshes and the concentration of less than 45%. It can also be used for mixing, agitation and leaching operation in such industries as metallurgy, chemical industry, and light industry under corresponding conditions.

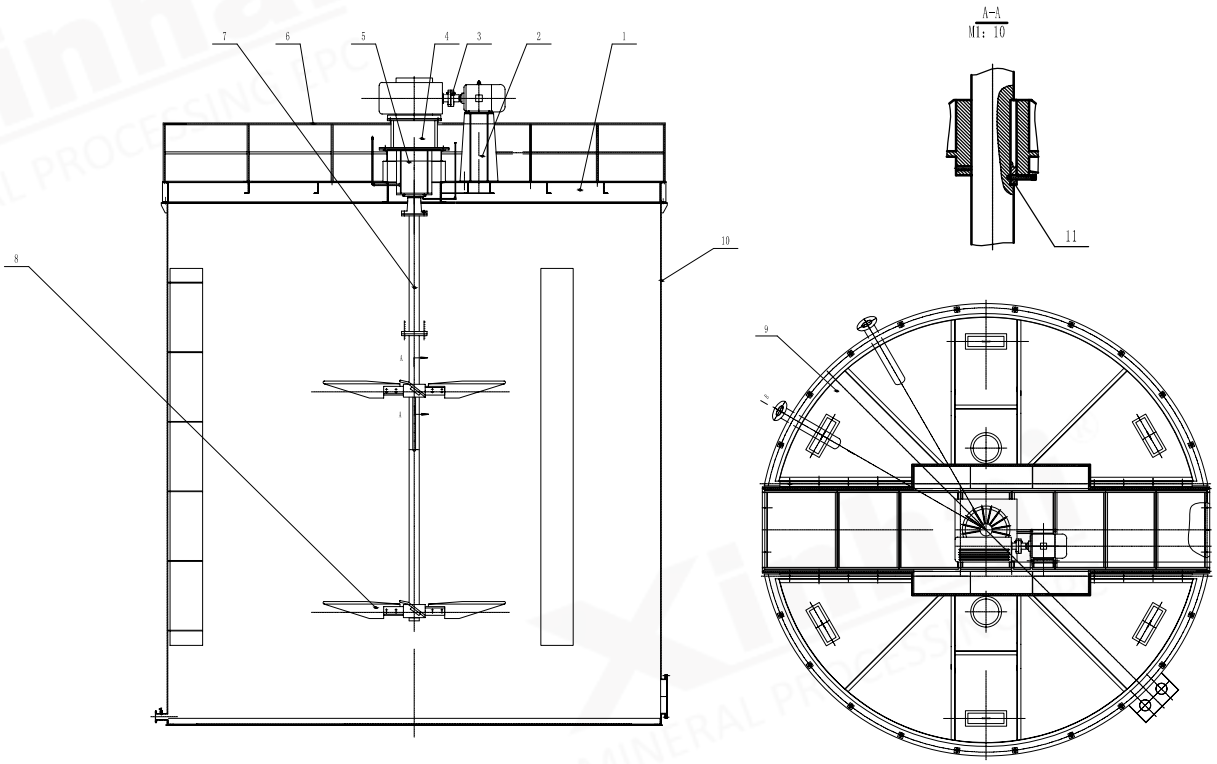
## Technical Parameters

| Model | Tank Spec. (D× H) (mm) | Effective Volume ($m^3$) | Rotating Speed of Impeller (r/min) | Diameter of Impeller (mm) | Motor Model | Motor Power (kW) | Reducer Model | Tank Weight (kg) | Total Weight (kg) |
|---|---|---|---|---|---|---|---|---|---|
| SJ2.0×2.5 | 2000×2500 | 7.07 | 52 | 909 | Y100L1-4 | 2.2 | XLD2.2-4-29 | 1609 | 2144 |
| SJ2.5×2.5 | 2500×2500 | 10.8 | 43 | 935 | Y112M-4 | 4 | XLD4-5-35 | 2159 | 2729 |
| SJ2.5×3.15 | 2500×3150 | 13.92 | 52 | 935 | Y100L1-4 | 2.2 | XLD2.2-4-29 | 2398 | 3095 |
| SJ3.0×3.0 | 3000×3000 | 19 | 43 | 1130 | Y112M-4 | 4 | XLD4-5-35 | 3480 | 4583 |
| SJ3×3.15 | 3000×3150 | 20 | | | | | | 3480 | 4160.6 |
| SJ3×3.5 | 3000×3500 | 22.97 | | | | | | 3211 | 4334.6 |
| SJ3.15×3.55 | 3150×3550 | 25.73 | | 1260 | | | | 3433.5 | 4322.8 |
| SJ3.5×3.5 | 3500×3500 | 31.3 | 52 | 1310 | Y132S-4 | 5.5 | XLD5.5-5-29 | 3480 | 5025 |
| SJ3.5×4 | 3500×4000 | 35.6 | | | | | | 4230 | 5429 |
| SJ3.55×4.0 | 3550×4000 | 36.8 | 43 | | | 4 | XLD4-5-35 | 4260 | 5025 |
| SJ3.7×4.2 | 3700×4200 | 42 | 42 | | Y112M-4 | | XLD4-5-43 | 5266 | 6153 |
| SJ4.0×4.5 | 4000×4500 | 52.78 | 35 | 1750 | Y132M-4 | 7.5 | XLD7.5-7-43 | 6397 | 7569 |
| SJ4.0×6 | 4000×6000 | 71 | 33 | 1750 | Y160M-4 | 11 | GRF137-Y11-4P-44.65-M4 | 7681 | 9200 |
| SJ4.5×5.0 | 4500×5000 | 74.75 | 35 | 1750 | Y132M-4 | 7.5 | XLD7.5-7-43 | 8614 | 10864 |
| SJ5.0×5.6 | 5000×5600 | 104.5 | 31 | 2046 | Y160M-4 | 11 | XLD11-8-47 | 8740 | 14291 |
| SJ5.5×6.0 | 5500×6000 | 135.42 | | 2100 | | | | 12467 | 18745 |
| SJ6.5×7.0 | 6500×7000 | 215 | 21 | 2400 | Y180L-4 | 22 | GRF147-Y22-4P-70.87 | 17890 | 25978 |
| SJ7.0×7.5 | 7000×7500 | 269 | | 2400 | Y200L2-6 | 22 | XLD22-10-47 | 20505 | 29030 |
| SJ7.5×8.0 | 7500×8000 | 331 | 23 | 2900 | Y200L2-6 | 22 | BLD7-43-22L | 22552 | 32796 |
| SJ8.0×8.5 | 8000×8500 | 402 | 18.5 | 3300 | Y250M-8 | 30 | TPS315-3F | 30559.5 | 42467.3 |
| SJ8.5×9.0 | 8500×9000 | 480 | 18.5 | 3300 | Y250M-8 | 30 | TPS315-3F | 34130 | 46623 |




## Separation Drawing of Double-impeller Leaching Agitation Tank

| | | | |
|---|---|---|---|
| 1. Chute coverplate handrail | 2. Coupling support | 3. Speed-reducing support | 4. Reducer |
| 5. Motor base | 6. Motor base | 7. Overbridge | 8. Ore drawing box |
| 9. Groove drum | 10. Gas tube | 11. Gas tube support | 12. Vertical shaft |
| 13. Impeller | 14. Impeller | 15. Vertical plate | 16. Feeding ore tube |




## Structure Drawing of Double-impeller Leaching Agitation Tank

1. Overbridge
2. Motor base
3. Coupling
4. Reducer base
5. Coupling support base
6. Handrail of tank cover plate
7. B Vertical shaft
8. Impeller
9. Tank cover
10. Tank body
11. Key

## Other Cyaniding Equipment

Double-deck Scrubbing Thickener
Cylindrical Filter
Deoxidation Column
Triple-deck Scrubbing Thickener
Spiral Zinc Powder Feeder
Belt Zinc Powder Feeder
Automatic Zinc Powder Mixer
Disc Zinc Powder Feeder
Power-Driven Zinc Powder Mixer
Air Lifter
Carbon-lifting Pump
Carbon Screen
Carbon Regeneration System

# High-Efficiency Low-consumption Rapid-desorption Electrowinning System

## Principle

Add some anion more easily absorbed by activated carbon to replace $Au(CN)_2^-$ and realize the desorption of gold. The pregnant solution from desorption of gold loaded carbon will be recycled by the ionization method, so as to get the solid gold.

## Features

High temperature, high pressure, cyanide-free desorption, automatic control, high efficiency, low energy consumption, and fast operation;

High efficiency: When the grade of the gold loaded carbon reaches 3000g/t, the desorption rate can reach above 96%. The grade of barren carbon can be reduced by 3-4 times than that of the conventional desorption electrolysis device.

Rapid: The temperature of the desorption electrolysis can reach 150 ℃ (30-55 ℃ higher than that of other models at the first stage), and the working pressure of the system can reach 0.5(MPa) (0.2-0.5(MPa) higher than that of other models at the first stage). Therefore, the time for desorption electrolysis is very soon, which is generally 12 hours, with nearly 3 times shortened.

Low consumption: The temperature of desorption electrolysis is the same with no need to heat. As the operation is fast, the total power consumption is 1/2-1/4 of the conventional system.

Cyanide-free: No sodium cyanide is added for desorption electrolysis to realize low costs and no pollution.

High grade of all slime without anti electrolysis with easy extraction of gold mud.

Automatic control: Specially set liquid level control system, temperature control system and automatic control system.

Safe: With triple safety protection measures, namely, self intelligent system, automatic pressure limiting and release system and safety valve.

## Application

It is used for the extraction of solid gold from gold loaded carbon by cyanidation.

## Capacity List

| Capacity of Standard Process (kg/d) | Capacity of Overloading Process (kg/d) | Recommended Model (kg/batch) |
|---|---|---|
| 300 | 750 | XH-200 |
| 450 | 1000 | XH-300 |
| 650 | 1700 | XH-450 |
| 750 | 1800 | XH-500 |
| 900 | 2200 | XH-600 |
| 1130 | 2700 | XH-750 |
| 1500 | 3600 | XH-1000 |
| 1800 | 4500 | XH-1200 |
| 2250 | 5500 | XH-1500 |
| 2700 | 6500 | XH-1800 |
| 3000 | 7500 | XH-2000 |
| 3750 | 9000 | XH-2500 |
| 4500 | 11000 | XH-3000 |
| 5200 | 13000 | XH-3500 |
| 6000 | 15000 | XH-4000 |
| 7500 | 18000 | XH-5000 |

## Technical Parameters

<table>
<tr><th rowspan="2">Model</th><th colspan="2">Suitable Scale</th><th rowspan="2">System Equipment List</th><th rowspan="2">System Instrument List</th><th rowspan="2">Operation Parameters</th></tr>
<tr><th>Mine Scale (t/d)</th><th>Raw Ore Grade (g/t)</th></tr>
<tr><td>GJD-200</td><td>＜ 150</td><td rowspan="13">2~8</td><td rowspan="20">S1 Desorption Column<br>S2 Filter<br>S3 Electrolytic Tank<br>S4 Circulating Pump<br>S5 Electric Heater<br>S6 Carbon Ejector<br>S7 Air Compressor<br>S8 Desorption Solution Tank<br>S9 Clarified Water Pump<br>S10 Acid Storage Tank<br>S11 Magnetic Pump<br>S12 Carbon Storage Tank<br>S15 Control Cabinet<br>S16 Silicon Rectifier Cabinet<br>S17 Pickling Tank</td><td rowspan="20">B1 Electric Resistance Remote Transmission Diaphragm-Seal Pressure Gauge<br>B1 Pressure Indication Adjusting Meter<br>B2 Diaphragm Pressure Gauge<br>B3 Vortex Shedding Flowmeter<br>B3 Flow Integrating Instrument<br>B4 Thermal Temperature Meter<br>B5 Temperature Sensor<br>B5 Temperature Indication Adjusting Meter<br>P6 Diaphragm Pressure Gauge<br>B7 Level Meter<br>B9 Temperature Sensor<br>B9 Temperature Indication Adjusting Meter</td><td rowspan="20">Desorption Solution:<br>PH ≥ 13.5<br>Time of Application:<br>Infinite<br>Electrolysis Start:<br>100-110℃<br>Electrolysis Ending:<br>150℃<br>Electrolysis Current:<br>350-1250A<br>Electrolysis Pressure:<br>2-4V<br>Pressure at 150℃ :<br>Upper of Desorption Column:<br>0.50-0.57MPa<br>Electrolytic Tank:<br>0.45-0.52MPa</td></tr>
<tr><td>GJD-300</td><td rowspan="2">150~300</td></tr>
<tr><td>GJD-450</td></tr>
<tr><td>GJD-500</td><td rowspan="3">300~500</td></tr>
<tr><td>GJD-600</td></tr>
<tr><td>GJD-750</td></tr>
<tr><td>GJD-1000</td><td rowspan="4">500~1000</td></tr>
<tr><td>GJD-1200</td></tr>
<tr><td>GJD-1500</td></tr>
<tr><td>GJD-1800</td></tr>
<tr><td>GJD-2000</td><td rowspan="3">1000~2000</td><td rowspan="7">2~20</td></tr>
<tr><td>GJD-2500</td></tr>
<tr><td>GJD-3000</td></tr>
<tr><td>GJD-3500</td><td rowspan="3">2000~3000</td></tr>
<tr><td>GJD-4000</td></tr>
<tr><td>GJD-5000</td></tr>
<tr><td>Especial</td><td>＞ 3000</td></tr>
</table>

Note: No pickling tank in economic process.


## Separation Drawing of High-Efficiency Low-consumption Rapid-desorption Electrowinning System

1. Desorption solution tank
2. Filter
3. Carbon storage tank
4. Desorption column
5. Electric heater
6. Circulating pump
7.Electrolytic tank

## High-Efficiency Low-consumption Rapid-desorption Electrowinning System Cases

# SF Mechanical Agitation Flotation Cell

## Principle

When the impeller rotates, the centrifugal force with the action of upper and lower vanes is produced, and drives the slurry in upper and lower wheel chambers thrown around, by which the negative pressure area is formed in upper and lower wheel chamber. At the same time, the slurry on top of cover plate is absorbed into upper wheel chamber to form upper circulation via the circular hole on the cover plate. When the slurry is thrown around by the lower vane, the lower slurry flows to the center to complement, by which the lower circulation is formed. And the air is sucked into the upper impeller chamber via suction pipe and center cylinder, mixing with absorbed slurry, and forming a large number of tiny air bubbles. After steady flow through the cover board, these bubbles are evenly dispersed in tank, forming mineral laden bubbles. Then mineral laden bubbles will rise to the foam layer, and become foam products by the scraper.

## Features

The impeller with backward-style two-sided vanes ensures double circulation of ore slurry in tank.

Large clearance between impeller and cover plate ensures large amount of air suction.

Low circular velocity of impeller ensures long service life of wear parts.

Forward-style tank body with small dead angle ensures high speed of bubble motion.

Large amount of air suction and low energy consumption.

Long service life of wear parts.

Better for the flotation of coarse-grained minerals.

## Special Tips

Mechanical stirring, automatic air and slurry suction.
It can be combined with JJF flotation cell to be a set of flotation cells as suction tanks of each operation.

## Application

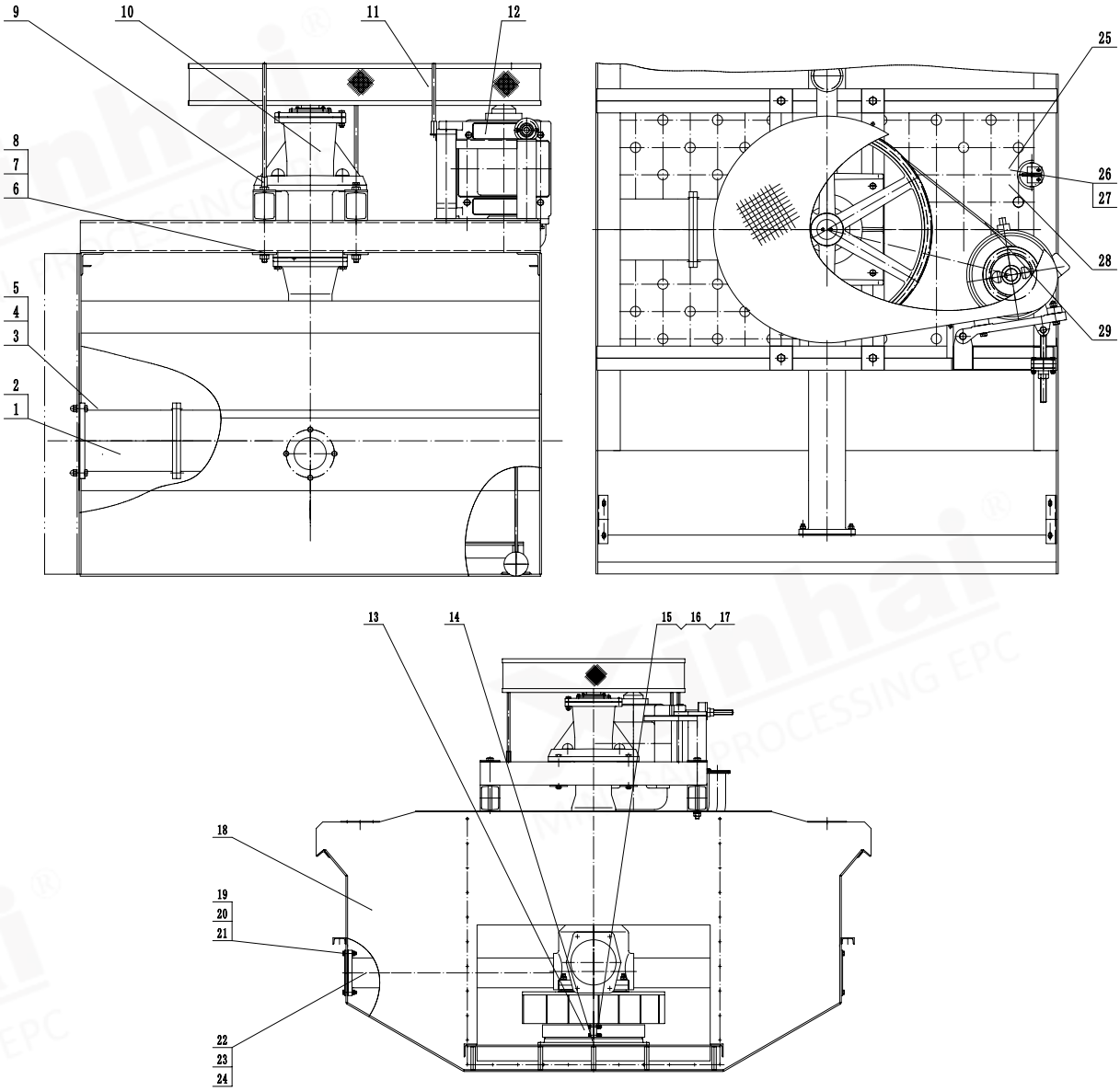
SF mechanical agitation flotation cell can be widely used in the mineral classifications of non-ferrous metals, black metals, and non-metals. It is suitable for roughing and scavenging in large and medium flotation plant.

## Technical Parameters

| Model | Effective Volume ($m^3$) | Capacity ($m^3$/min) | Impeller Diameter (mm) | Impeller Revolution (r/min) | Motor Power for Stir (kW) | Motor Power for Scraper (kW) | Single Tank Weight (kg) |
|---|---|---|---|---|---|---|---|
| SF-0.37 | 0.37 | 0.2~0.4 | 300 | 352~442 | 1.5 | 0.55 | 468 |
| SF-0.7 | 0.7 | 0.3~1.0 | 350 | 336~384 | 3 | 1.1 | 629 |
| SF-1.2 | 1.2 | 0.6~1.6 | 450 | 312 | 5.5 | 1.1 | 1373 |
| SF-2 | 2 | 1.5~3 | 550 | 280 | 11 | 1.5 | 1879 |
| SF-2.8 | 2.8 | 1.5~3.5 | 550 | 280 | 11 | 1.5 | 1902 |
| SF-4 | 4 | 2.0~4 | 650 | 235 | 15 | 1.5 | 2582 |
| SF-6 | 6 | 3~6 | 760 | 191 | 30 | 2.2 | 3540 |
| SF-8 | 8 | 4.0~8 | 760 | 191 | 30 | 2.2 | 4129 |
| SF-16 | 16 | 5.0~16 | 850 | 169~193 | 45 | 1.5 | 7415 |
| SF-20 | 20 | 10~12 | 850 | 169~193 | 45 | 1.5 | 9828 |


## Separation Drawing of SF Mechanical Agitation Flotation Cell

1. Big belt pulley
2. Upper bearing cap
3. Bearing body
4. Tapered roller bearing
5. Principal roller
6. Air suction pipe
7. Upper oil seal ring
8. Belt
9. Oil retainer
10. Motor plate
11. Lower bearing cap
12. Scraper
13. Center cylinder
14. Stator
15. False baseplate
16. Chute bottom slab




## Structure Drawing of SF Mechanical Agitation Flotation Cell

| | | | | |
|---|---|---|---|---|
| 1. Feed pipe | 2. Rubber gasket of feed pipe | 3. Bolt | 4. Nut | 5. Washer |
| 6. Bolt | 7. Nut | 8. Washer | 9. Pipe base | 10. Main shaft component |
| 11. Big belt cover | 12. Motor base | 13. Adjusting semi-ring of honeycomb duct | 14. Honeycomb duct | 15. Bolt |
| 16. Nut | 17. Washer | 18. Tank body | 19. Bolt | 20. Nut |
| 21. Washer | 22. Middling pipe | 23. Rubber gasket of middling pipe | 24. Small cover plate | 25. Baffle |
| 26. Bolt | 27. Nut | 28. Discharge valve | 29. V-belt | |

## Other Flotating Equipment

XJ Mechanical Agitation Flotation Cell
GF Mechanical Agitation Flotation Cell
JJF Mechanical Agitation Flotation Cell
BF Mechanical Agitation Flotation Cell
CLF Air-inflation Flotation Cell
XCF Air-inflation Flotation Cell
KYF Air-inflation Flotation Cell
BSK Air-inflation Flotation Cell
BSF Air-inflation Flotation Cell
XHF Air-inflation Flotation Cell
High-efficiency Energy-saving Circular Flotation Cell
Cyclonic Micro-bubble Flotation Column

# XS Shaking Table

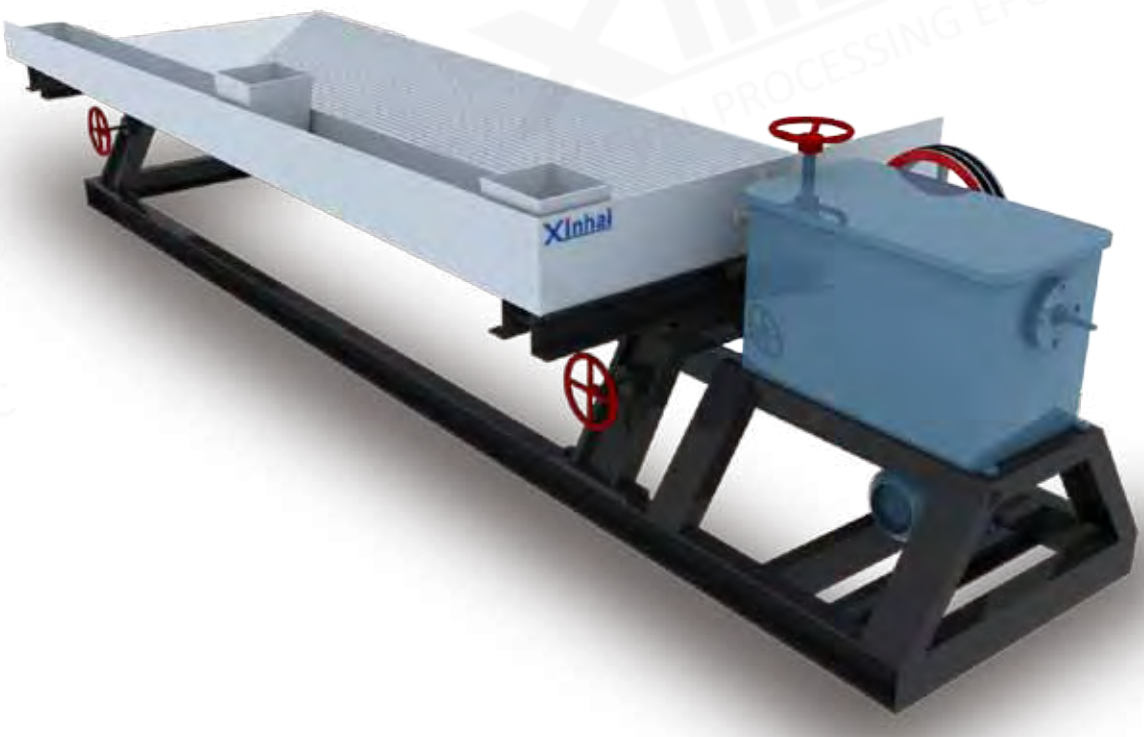
## Principle

The table is mainly composed of eight parts including bed head, motor, slope modulator, bed surface, bunker, water tank, rifle bar and lubricating system.

The vertical reciprocating motion of the bed surface is driven by the crank-connecting rod mechanism. The motor through the belt drive makes the pulley drive the rotation of the bent axle with up-and-down motion of the rocker. When the down motion of the rocker, the bracket drives rear axle and reciprocating lever to move backward, by which the spring is compressed. The bed surface is connected with reciprocating lever through linkage base, so at this time it moves backward, and the rocker is pushed by the tension force of the spring when it does the upward motion with the forward motion of the bed surface.

## Application

XS shaking table is one of the main equipment of gravity separation, and it is widely used in the mineral classifications of tungsten, tin, tantalum, niobium, gold and other rare metals and precious metals. It is also used for different operations such as roughing, selection, and scavenging; different particle-size classifications of coarse sand (2-0.5 mm), fine sand (0.5-0.074 mm), slurry (-0.074) and so on; classifications of iron, manganese ore and coal. The effective recycling particle size range of table is 2-0.22 mm when processing the minerals such as tungsten and tin.



## Technical Parameters

| Model | | XS 7.6 | | | XS 4.08 | XS 1.95 | XS 0.5 |
|---|---|---|---|---|---|---|---|
| Bed Surface Type | | Coarse Sand Bed Surface | Fine Sand Bed Surface | Slurry Bed Surface | 3 Kinds Of Bed Surfaces Selectable | | |
| Beneficiation Area of Bed Surface ($m^2$) | | 7.6 | 7.6 | 7.6 | 4.08 | 1.95 | 0.5 |
| Bed Surface Dimension | Length (mm) | 4500 | 4500 | 4500 | 3000 | 2100 | 1100 |
| | Width of Driving End (mm) | 1850 | 1850 | 1850 | 1320 | 1050 | 500 |
| | Width of Concentration End (mm) | 1550 | 1550 | 1550 | 1100 | 850 | 430 |
| Max. Feed Size (mm) | | 2 | 0.5 | 0.074 | Ore Sand -2 Slurry -0.1 | Ore Sand-2 Slurry -0.074 | Ore Sand -2 Slurry -0.074 |
| Capacity (t/h) | | 1~1.8 | 0.5~1 | 0.3~0.5 | 0.4~1.5 | 0.3~0.8 | 0.05~0.2 |
| Feed Density (%) | | 20~30 | 18~25 | 15~20 | 10~30 | | |
| Stroke (mm) | | 16~22 | 11~16 | 8~16 | 6~30 | 12~28 | 9~17 |
| Jig Frequency (r/min) | | 220 | 250 | 280 | 210~320 | 250~450 | 280~460 |
| Water Consumption (t/h) | | 0.7~1 | 0.4~0.7 | 0.4~0.7 | 0.3~1.5 | 0.2~1 | 0.1~0.5 |
| Notch Groove Section Shape | | Rectangle | Sawtooth Wave | Triangle | Rectangle, Sawtooth Wave and Triangle Selectable | | |
| Motor Power (kW) | | 1.1 | 1.1 | 1.1 | 1.1 | 1.1 | 0.55 |

## Other Gravity Separating Equipment

Diaphragm Jig

Centrifugal Separator

Sawtooth Wave Jig

XY Shaking Table

BLL GRP Spiral Chute

# Updated High-efficiency Thickener

## Principle

The thickener is mainly composed of two major parts including circular thickening tank and rake-type mud scraper: The solid particles suspended in the slurry in the thickening tank is settled by the gravity effect, after that, the clear water is on top, which makes the solid-liquid separation. The slurry deposited at the bottom of the thickening tank is continuously scraped to the center of the tank bottom by rake-type mud scraper and discharged by the outlet, and the clean water overflows from the top edge of the thickening tank.

## Features

The deaerating tank is added to avoid solid particles attaching to bubbles and settling as parachute phenomena.

The feeding pipe is installed under the liquid level in order to bring the air when feeding.

The feeding sleeve is moved to a lower position and equipped with a receiving plate in order to make the slurry fed fall evenly and steadily and effectively prevent the rolling phenomena caused by the overbottom pressure from feeding.

The overflow weir in sawtooth shape can reduce part suction phenomena caused by out of level of overflow weir.

The linear of rabble blade is changed from slash to curve, which makes the rise of discharging underflow concentration and the improvement of the treatment capacity.

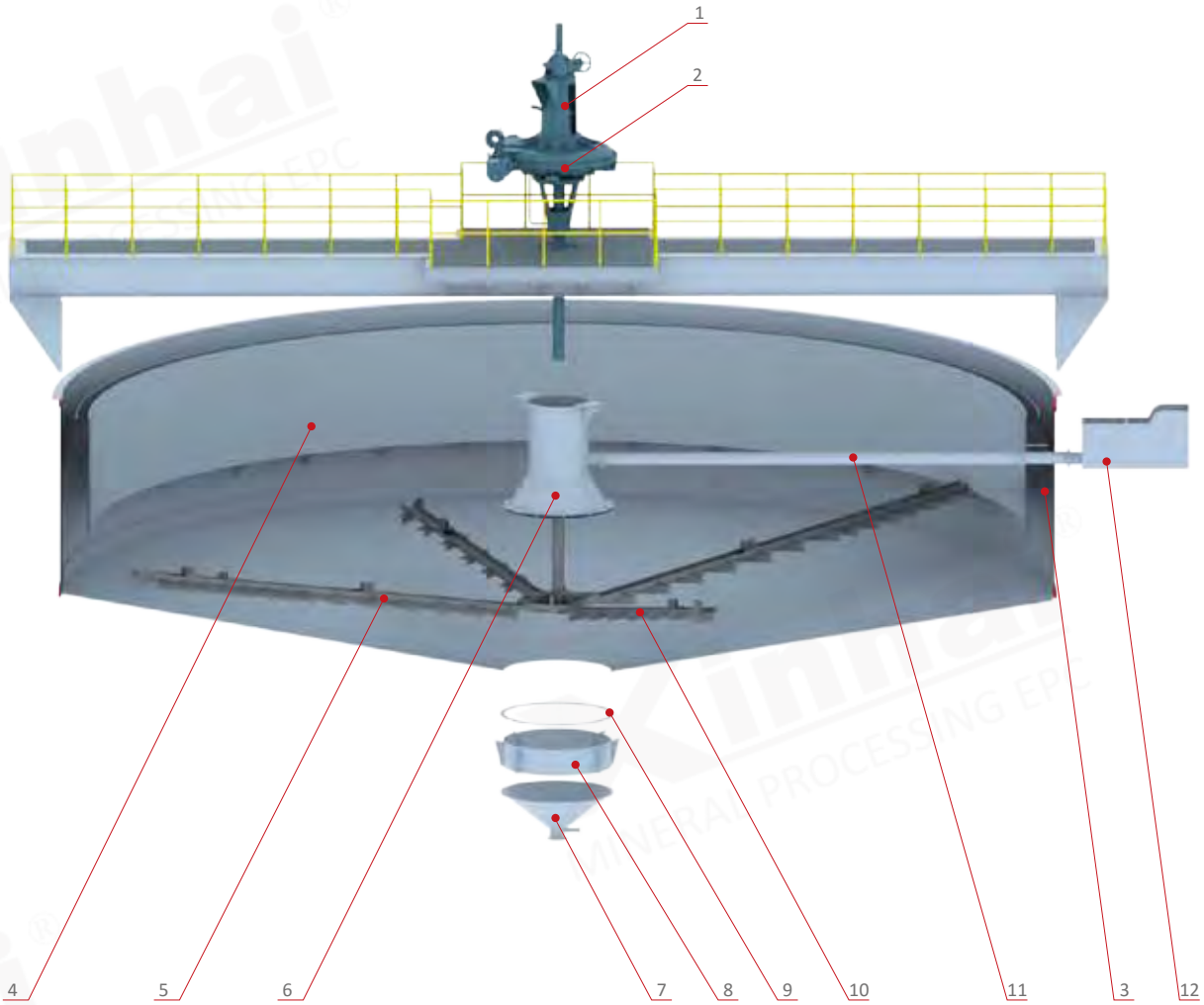
## Application

It can be widely used for the treatment of slime, waste water, and waste residue in metallurgy, mining, coal, chemical industry, building materials, and environmental protection departments.

## Technical Parameters

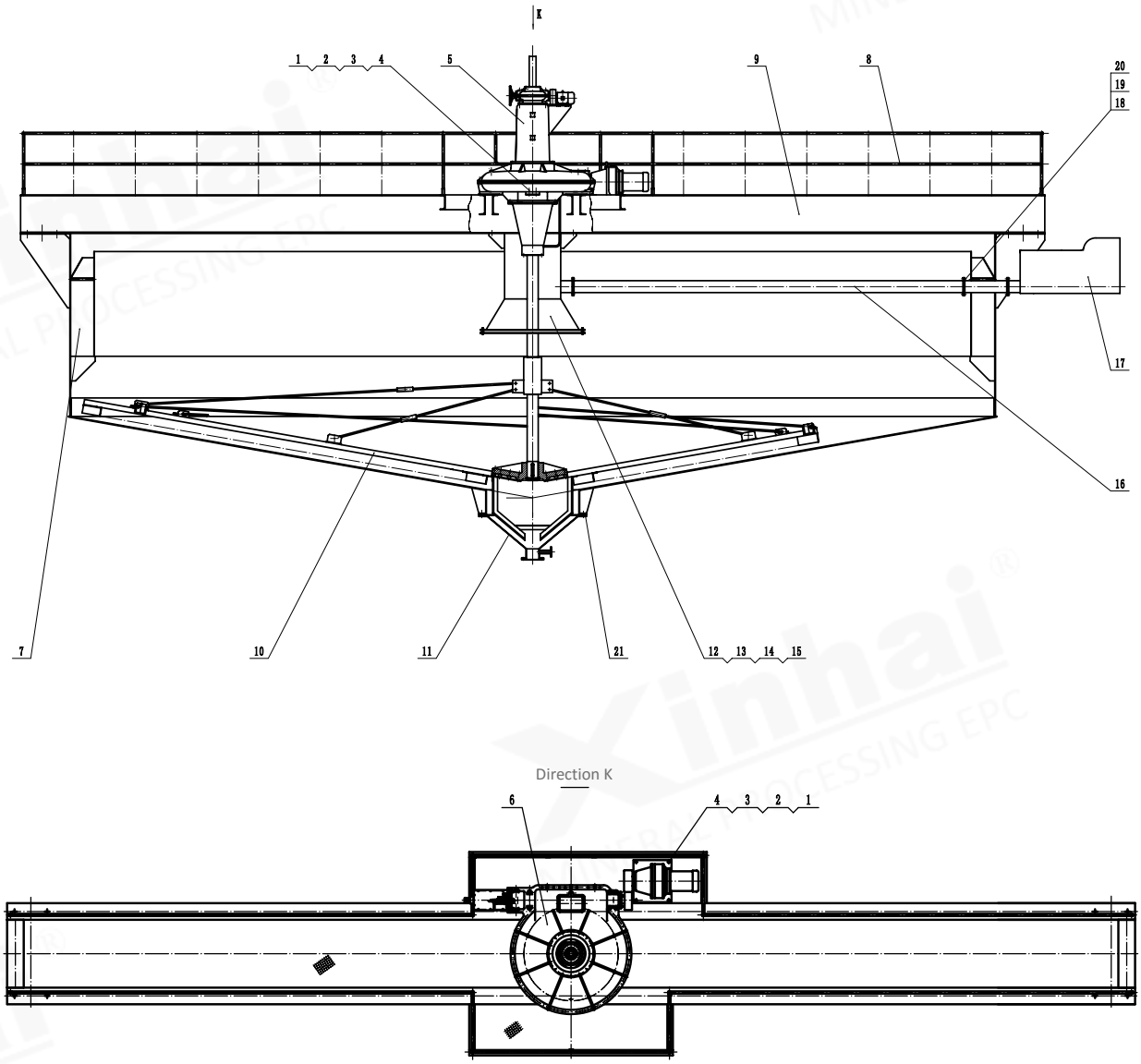
| Model | Tank Diameter (mm) | Tank Depth (mm) | Subsidence Area ($m^2$) | Capacity (t/d) | Motor Model | Motor Power (kW) | Steel Tank Weight (kg) | Weight (kg) |
|---|---|---|---|---|---|---|---|---|
| NZSG-2.5 | 2500 | 1850 | 4.9 | 5~22.4 | Y90L-6 | 1.1 | 1000 | 2225 |
| NZSG-3A | 3000 | 1800 | 7 | 5~23.3 | Y100L-6 | 1.5 | 1664 | 3168 |
| NZSG-3 | 3600 | 1800 | 10.2 | 5~28.5 | Y100L-6 | 1.5 | 2097 | 3680 |
| NZSG-5 | 5000 | 2956 | 16 | 16~90 | Y90L-4 | 1.5 | 5160 | 8031 |
| NZSG-6 | 6000 | 2956 | 28.3 | 98 | Y90L-4 | 1.5 | 5769 | 9200 |
| NZSG-7 | 7000 | 3000 | 38.5 | 140 | Y112M-6 | 2.2 | 8800 | 13862 |
| NZSG-8 | 8000 | 3318 | 50.2 | 185 | Y132S-6 | 3 | 12966 | 19158 |
| NZSG-9 | 9000 | 3376 | 63 | 210 | Y132S-6 | 3 | 15418 | 21733 |
| NZSG-12 | 12000 | 3600 | 113 | 370 | Y132S-6 | 3 | 25589 | 34823 |
| NZSG-15 | 15000 | 3600 | 176 | 580 | Y132S-4 | 5.5 | 35800 | 54315 |
| NZSG-18 | 18000 | 4400 | 255 | 960 | YCT200-4B | 7.5 | 52485 | 73588 |
| NZSG-20 | 20000 | 4400 | 315 | 1400 | YCT200-4B | 7.5 | 59365 | 76312 |

Note: The specification can be designed according to the requirements of the users.
If adding flocculant, the capacity can be improved by 3-6 times.
The concrete structure can be adopted if the thickening diameter is greater than φ7m.




## Separation Drawing of Updated High-efficiency Thickener

1. Lifting assembly
2. Transmission device
3. Outer overflow weir
4. Inner overflow weir
5. Long rake arm
6. Feed vertical tube
7. Funnel
8. Steel ring
9. Funnel flange
10. Short rake arm
11. Feedingore tube
12. Degassing chute




## Structure Drawing of Updated High-efficiency Thickener

| | | | | |
|---|---|---|---|---|
| 1. Bolt | 2. Nut | 3. Washer | 4. Washer | 5. Lifting part |
| 6. Drive part | 7. Tank body | 8. Rail | 9. Summer beam | 10. Rake |
| 11. Hopper | 12. Feed vertical cylinder | 13. Bolt | 14. Nut | 15. Washer |
| 16. Feed pipe | 17. Deaerating tank | 18. Bolt | 19. Nut | 20. Washer |
| 21. Base plate | | | | |

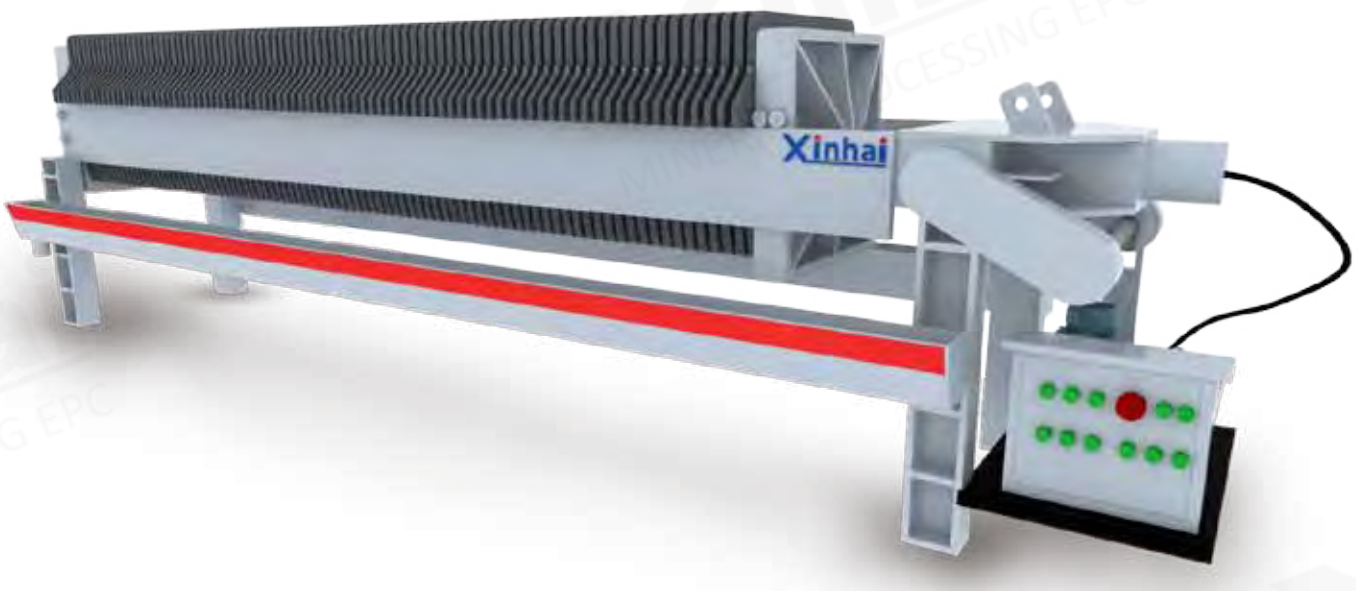
## Other Thickening Equipment

High-efficiency Thickener
Center Transmission Thickener
Thickener with Peripheral Roller Transmission
Flocculant Feeding Device
Thickener with Peripheral Rack Transmission
Flocculant Agitation Tank
High-Efficiency Deep-cone Thickener
Automatic Control Device of High-efficiency Thickener
Hydraulic Pressure Center Transmission Thickener
Vibration Inclined-Plate High-efficiency Thickener

# Automatic Hydraulic Chamber Filter Press

## Principle

Automatic hydraulic chamber filter press is a kind of intermittent solid-liquid separation equipment designed and manufactured by using mechanical and electrical integration with reasonable structure and easy operation. It can achieve all processes such as filter plate compression, pressure maintaining and filter plate release. The filter chamber is composed of chamber plate, filter frame plate or chamber plate. By the pressure of the feeding pump, the slurry is fed into the filter chamber, and the solid and liquid are separated through the filter medium. It is widely used in the sewage treatment in such industries as mine, chemical and metallurgy.



## Technical Parameters

| Model | Filter Area ($m^2$) | Number of Filter Chamber | Spec. of Filter Plate (mm) | Filter Cake Thickness (mm) | Volume of Filter Chamber ($m^3$) | Filter Pressure (MPa) | Overall Dimension (mm) | Motor Power (kW) | Weight (kg) |
|---|---|---|---|---|---|---|---|---|---|
| $X^M_AZ$ 20/800U | 20 | 20 | 800×800×60 | 30 | 0.287 | 0.5~1.6 | 3500×1350×1160 | 2.2 | 2750 |
| $X^M_AZ$ 30/800U | 30 | 30 | | | 0.453 | | 4110×1350×1160 | | 3130 |
| $X^M_AZ$ 40/800U | 40 | 40 | | | 0.605 | | 4720×1350×1160 | | 3420 |
| $X^M_AZ$ 50/800U | 50 | 50 | | | 0.756 | | 5330×1350×1160 | | 3700 |
| $X^M_AZ$ 60/800U | 60 | 60 | | | 0.907 | | 5940×1350×1160 | | 4110 |
| $X^M_AZ$ 70/800U | 70 | 70 | | | 1.059 | | 6550×1350×1160 | | 4400 |
| $X^M_AZ$ 80/800U | 80 | 80 | | | 1.21 | | 7160×1350×1160 | | 4740 |
| $X^M_AZ$ 40/900U | 40 | 32 | 900×900×60 | 30 | 0.59 | 0.5~1.6 | 4230×1480×1280 | 2.2 | 4500 |
| $X^M_AZ$ 50/900U | 50 | 40 | | | 0.75 | | 4720×1480×1280 | | 4800 |
| $X^M_AZ$ 60/900U | 60 | 47 | | | 0.88 | | 5150×1480×1280 | | 5100 |
| $X^M_AZ$ 70/900U | 70 | 63 | | | 1.19 | | 6120×1480×1280 | | 5700 |
| $X^M_AZ$ 60/1000U | 60 | 38 | 1000×1000×60 | 30 | 0.9 | 0.5~1.6 | 5450×1560×1360 | 2.2 | 7080 |
| $X^M_AZ$ 80/1000U | 80 | 50 | | | 1.19 | | 6180×1560×1360 | | 7830 |
| $X^M_AZ$ 100/1000U | 100 | 62 | | | 1.48 | | 6910×1560×1360 | | 8680 |
| $X^M_AZ$ 120/1000U | 120 | 75 | | | 1.8 | | 7710×1560×1360 | | 9250 |
| $X^M_AZ$ 125/1250U | 120 | 46 | 1250×1250×65 | 32 | 1.9 | 0.5~1.6 | 6500×1770×1620 | 4 | 10900 |
| $X^M_AZ$ 150/1250U | 150 | 58 | | | 2.41 | | 7290×1770×1620 | | 11800 |
| $X^M_AZ$ 180/1250U | 180 | 69 | | | 2.88 | | 8020×1770×1620 | | 12700 |
| $X^M_AZ$ 200/1250U | 200 | 77 | | | 3.22 | | 8550×1770×1620 | | 13300 |
| $X^M_AZ$ 220/1250U | 220 | 84 | | | 3.51 | | 9010×1770×1620 | | 13900 |
| $X^M_AZ$ 250/1250U | 250 | 95 | | | 3.98 | | 9740×1770×1620 | | 14800 |
| $X^M_AZ$ 300/1500U | 300 | 77 | 1500×1500×70 | 32 | 4.76 | 0.5~1.6 | 10040×2400×1800 | 5.5 | 26500 |
| $X^M_AZ$ 320/1500U | 320 | 83 | | | 5.14 | | 10460×2400×1800 | | 27190 |
| $X^M_AZ$ 340/1500U | 340 | 88 | | | 5.45 | | 10820×2400×1800 | | 27880 |
| $X^M_AZ$ 350/1500U | 350 | 90 | | | 5.58 | | 10960×2400×1800 | | 28230 |
| $X^M_AZ$ 380/1500U | 380 | 98 | | | 6.08 | | 11530×2400×1800 | | 29260 |
| $X^M_AZ$ 400/1500U | 400 | 103 | | | 6.39 | | 11880×2400×1800 | | 29950 |
| $X^M_AZ$ 450/1500U | 450 | 116 | | | 7.21 | | 12810×2400×1800 | | 31670 |
| $X^M_AZ$ 500/1500U | 500 | 128 | | | 7.96 | | 13660×2400×1800 | | 33390 |
| $X^M_AZ$ 560/2000U | 560 | 80 | 2000×2000×83 | 40 | 11.16 | 0.5~1.6 | 10600×2900×2450 | 11 | 56500 |
| $X^M_AZ$ 600/2000U | 600 | 86 | | | 12.01 | | 12110×2900×2450 | | 58000 |
| $X^M_AZ$ 630/2000U | 630 | 90 | | | 12.58 | | 12440×2900×2450 | | 59000 |
| $X^M_AZ$ 670/2000U | 670 | 96 | | | 13.43 | | 12950×2900×2450 | | 60500 |
| $X^M_AZ$ 710/2000U | 710 | 101 | | | 14.13 | | 13370×2900×2450 | | 62000 |
| $X^M_AZ$ 750/2000U | 750 | 107 | | | 14.98 | | 13870×2900×2450 | | 63300 |
| $X^M_AZ$ 800/2000U | 800 | 114 | | | 15.97 | | 14460×2900×2450 | | 65200 |
| $X^M_AZ$ 850/2000U | 850 | 121 | | | 16.96 | | 15050×2900×2450 | | 67000 |
| $X^M_AZ$ 900/2000U | 900 | 128 | | | 17.95 | | 15640×2900×2450 | | 69000 |
| $X^M_AZ$ 950/2000U | 950 | 135 | | | 18.94 | | 16220×2900×2450 | | 70600 |
| $X^M_AZ$ 1000/2000U | 1000 | 142 | | | 19.92 | | 16810×2900×2450 | | 72300 |
| $X^M_AZ$ 1060/2000U | 1060 | 151 | | | 21.2 | | 17570×2900×2450 | | 74500 |
| $X^M_AZ$ 1120/2000U | 1120 | 159 | | | 22.33 | | 18240×2900×2450 | | 76800 |
| $X^M_AZ$ 1180/2000U | 1180 | 168 | | | 23.61 | | 19000×2900×2450 | | 79000 |

Note: M- Free flow; A- Underflow.

## Other Filtering Equipment

Ceramic Vacuum Filter

Automatic Hydraulic Chamber Filter Press

Fast Open High Voltage Polypropylene Diaphragm Filter Press

Belt Filter Press

Disk Vacuum Filter

Permanent Magnetic Vacuum Filter

Pressure Water Tank

Single-cylinder Auto-draining Filtrate Tank

Electromagnetic Auto-draining Filtrate Tank

Double-cylinder Auto-draining Filtrate Tank

# XPA Wear-resistant Rubber Slurry Pump

## Principle

Driven by motor, the pump body and inlet line are filled with liquid before starting the pump. With high-speed rotation, the impeller drives the liquid between the vanes to rotate together. Due to the effect of centrifugal force, the liquid is thrown to the outer edge of impeller from the impeller center with kinetic energy increased. After the liquid entering the pump shell, as the flow channel in the volute type pump shell is gradually enlarged, the liquid velocity is decreased gradually, which makes part of the kinetic energy transform into static energy, therefore the liquid with high pressure is discharged along the outlet. At the same time, the impeller center forms a certain vacuum for that the liquid is thrown out. The pressure on liquid level is higher than that of impeller center, so the liquid in suction pipe will flow into the pump under the action of pressure difference. With the constant rotation of impeller, the liquid is sucked and extruded continuously.

## Features

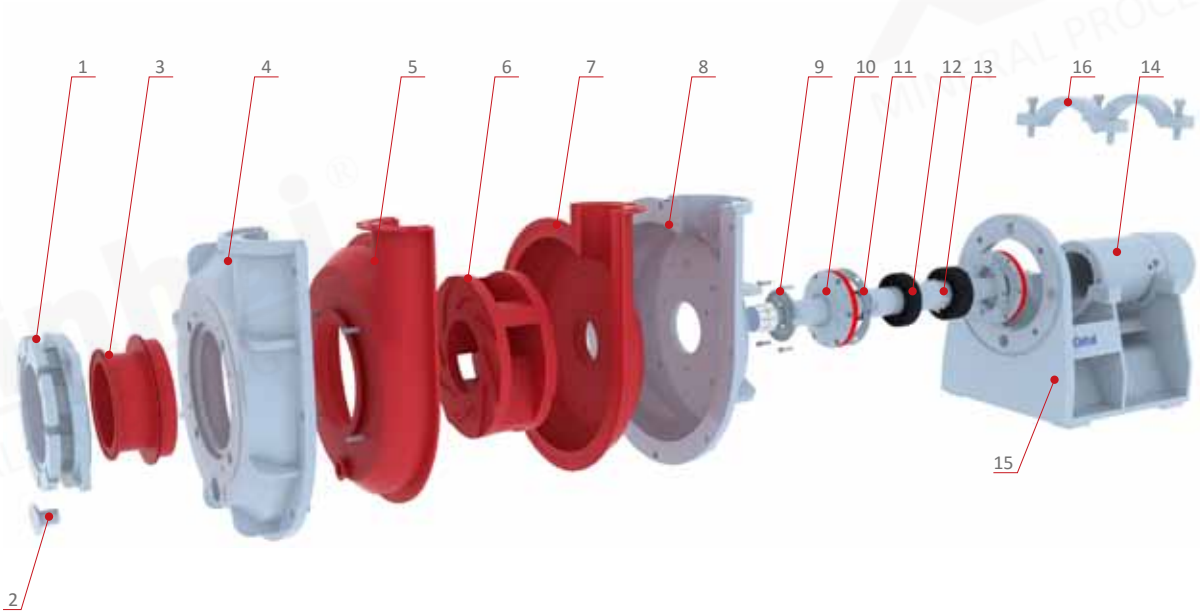
Based on the outstanding wear resistance of rubber and the molded rubber flow parts, XPA series wear-resistant rubber lined pump has absolute authority in terms of wear resistance. It has the features of smooth operation, energy conversation, low noise, cost saving, high efficiency, easy maintenance, and durability.
The maximum concentration of pulp delivery should be no more than 60% (weightometer).
The temperature of pulp delivery is among - 40 - + 70 ˚C .

## Application

Xinhai rubber pump is suitable for handling corrosive slurry or fluid containing solid materials, exceeding the scope of application of metal and other types of pumps.
Beneficiation-metallurgy plant: Hydrocyclone feeding in grinding ore cycle (including the first stage of grading hydrocyclone); pump delivery, concentration & filtering of tailings, concentrates and intermediate products; all kinds of slurry pump delivery.
Power plant: The delivery of tail ash, slag and coal slurry.
Sand and gravel plant: Sand and gravel transportation, sand and water supply of mining, all kinds of classification and dewatering equipment with remarkable wear resistance by contrast.
Coal preparation plant: Grading, screening and conveying of dense medium; coal slurry transportation.
Chemical plant: The treatments of chemical liquid, acid or base, slurry, and waste water at low and medium temperature.
Water conservancy project: Damming, bed silt displacement, sand and gravel classification, etc.
Paper mill: The treatments of clay slip, paper pulp and waste water.
Ceramic and glass plant: porcelain clay and sand & gravel transportation, hydrocyclones feeding and waste water treatment.
Steel Plant: The delivery of slurry, Oxide skin, and corrosive liquid.
Special instructions should be offered to us if with oil and chemical.

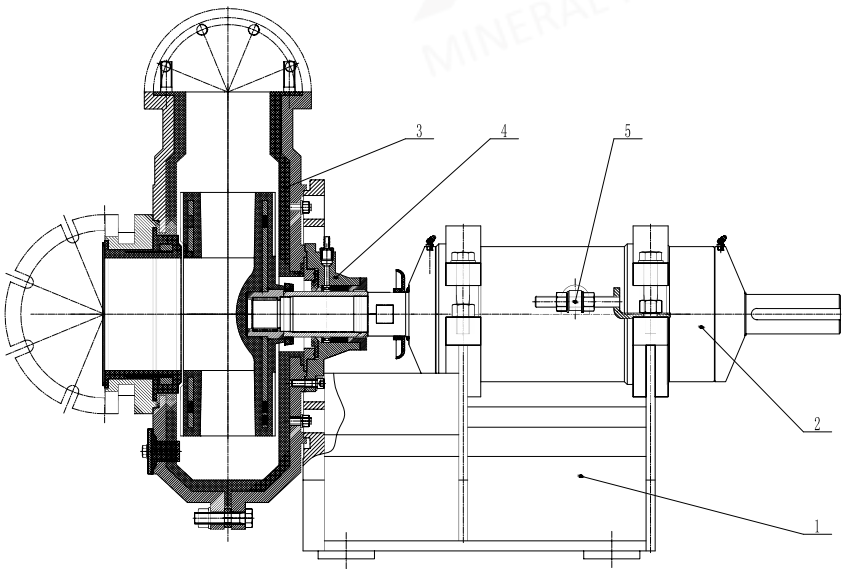
## Technical Parameters

| Model & Spec. | Flow ($m^3/h$) | Max. Head (m) | Rotating Speed (r/min) | Max. Rated Power (kW) | Max. Efficiency (%) | Impeller Diameter (mm) | Weight (kg) | Overall Dimension (mm) |
|---|---|---|---|---|---|---|---|---|
| XPA 50/50 | 20~60 | 38 | 800~2400 | 22 | 51 | 200 | 156 | 725×482×491 |
| XPA 80/80 | 30~100 | 45 | 600~2100 | 45 | 53 | 256 | 326 | 915×590×595 |
| XPA 100/100 | 60~160 | 50 | 600~1600 | 75 | 57 | 340 | 440 | 999×648×660 |
| XPA 150/125 | 100~260 | 47 | 400~1400 | 110 | 63 | 372 | 608 | 1280×736×758 |
| XPA 200/150 | 160~450 | 47 | 450~1200 | 132 | 69 | 433 | 736 | 1313×788×822 |
| XPA 250/200 | 300~900 | 46 | 400~1200 | 250 | 78 | 454 | 1250 | 1600×812×956 |
| XPA 300/250 | 400~1500 | 45 | 300~900 | 600 | 73 | 610 | 1956 | 1698×966×1083 |




## Separation Drawing of XPA Wear-resistant Rubber Slurry Pump

1. Suction side flange
2. Stoppage
3. Suction side sheath
4. Pump cover
5. Pump cover sheath
6. Impeller
7. Pump body sheath
8. Pump body
9. Outer water retainer
10. Front end cap
11. Paper gasket
12. Tapered roller bearing
13. Principle roller
14. Bearing body
15. Engine base assembly
16. Bearing body upper junk ring




## Structure Drawing of XPA Wear-resistant Rubber Slurry Pump

1. Machine base assembly
2. Rotor assembly
3. Pump head assembly
4. Seal assembly
5. Adjusting assembly

## Other Slurry Pump Equipment

XPA Wear-resistant Rubber Slurry Pump

XPA II High-head Wear-resistant Rubber Slurry Pump

XPB Slurry Pump

# Heavy-duty Plate Feeder

## Principle

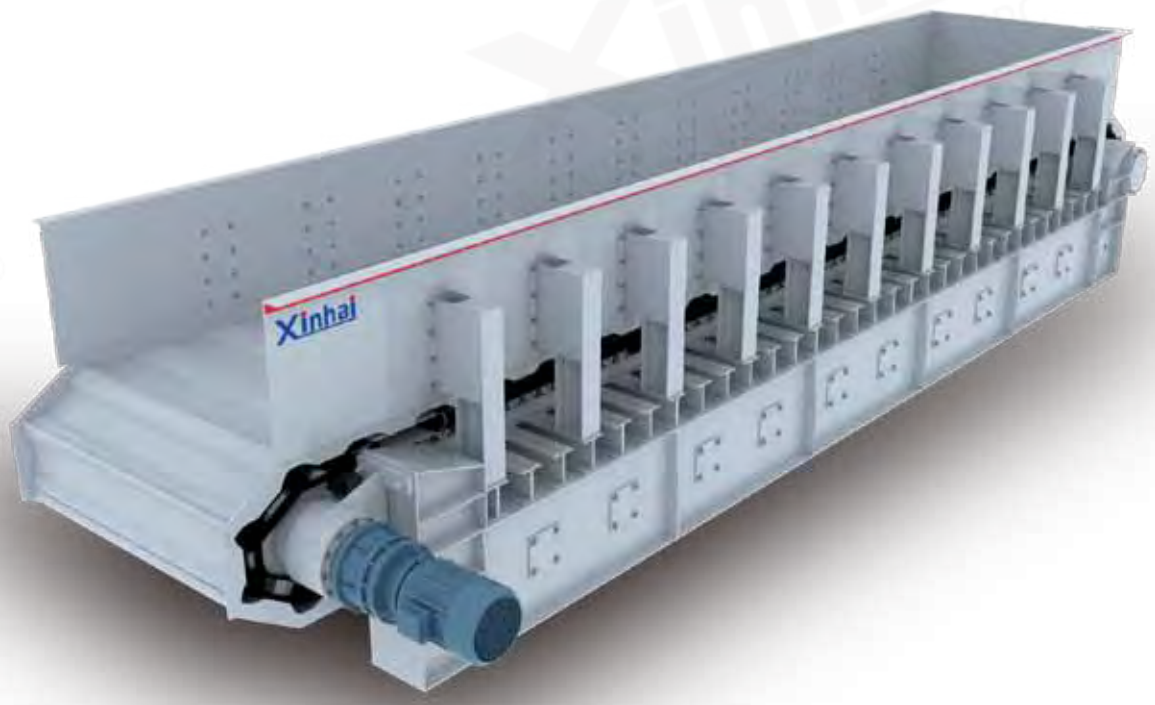
The main work of the feeder is to make the motor power through reducer, drive the connecting rod of the eccentric gear do the reciprocating motion, and also make the pawl push the ratchet to drive the rotation of the chain wheel. Thereby the intermittent motion of the chain plate will begin so as to achieve the purpose of conveying materials.

## Features

It can be installed both horizontally and slantly with the maximum slope angle of 12 degrees. In order to avoid materials blowing directly to the feeder, complete unloading is not allowed in the ore bin. The max feed size can reach 1000 mm.

## Application

It is used for feeding the materials in ore bin continuously and uniformly to primary breaker in crushing & grading workshop in large mineral processing plant, and in cement or building materials department. The short distance transportation of the materials with big particle size and large specific gravity is also applicable.



## Technical Parameters

| Model | Chain Plate | | | Feed Size (mm) | Capacity ($m^3$/h) | Motor | | Overall Dimension (L×W×H) (mm) | Weight (kg) |
|---|---|---|---|---|---|---|---|---|---|
| | Width (mm) | Center Distance of Chain Wheel (mm) | Speed (m/s) | | | Model | Power (kW) | | |
| Gbz120-4.5 | 1200 | 4500 | 0.05 | ≤ 500 | 100 | Y160l-4 | 15 | 6983×5228×2080 | 31279 |
| Gbz120-5 | | 5000 | | | | | | 7593×5228×2080 | 33437 |
| Gbz120-5.6 | | 5600 | | | | | | 8183×5228×2080 | 34321 |
| Gbz120-6 | | 6000 | | | | | | 8638×5228×2080 | 35900 |
| Gbz120-8 | | 8000 | | | | Y180l-4 | 22 | 10533×5293×2080 | 41342 |
| Gbz120-8.7 | | 8700 | | | | | | 11383×5293×2080 | 43164 |
| Gbz120-10 | | 10000 | | | | | | 12583×5293×2080 | 46962 |
| Gbz120-12 | | 12000 | | | | | | 14653×5293×2080 | 51844 |
| Gbz120-15 | | 15000 | | | | Y200l-4 | 30 | 17658×5518×2080 | 62157 |
| Gbz150-4 | 1500 | 4000 | | ≤ 600 | 150 | Y160l-4 | 15 | 6613×5528×2080 | 33197 |
| Gbz150-6 | | 6000 | | | | Y180l-4 | 22 | 8638×5593×2080 | 39757 |
| Gbz150-7 | | 7000 | | | | | | 9633×5593×2080 | 43352 |
| Gbz150-8 | | 8000 | | | | | | 10533×5593×2080 | 45962 |
| Gbz150-9 | | 9000 | | | | Y200l-4 | 30 | 11683×5668×2080 | 50522 |
| Gbz150-12 | | 12000 | | | | Y225m-4 | 45 | 14653×5888×2080 | 59915 |
| Gbz180-6 | 1800 | 6000 | | ≤ 800 | 240 | Y225m-4 | 45 | 8651×6463×2080 | 46840 |
| Gbz180-8 | | 8000 | | | | | | 10533×6188×2080 | 51360 |
| Gbz180-9.5 | | 9500 | | | | | | 12033×6188×2080 | 57397 |
| Gbz180-10 | | 10000 | | | | | | 12593×6188×2080 | 59632 |
| Gbz180-12 | | 12000 | | | | | | 14653×6363.5×2080 | 66029 |
| Gbz240-4 | 2400 | 4000 | | ≤ 1000 | 400 | Y200l-4 | 30 | 6613×6718×2080 | 44780 |
| Gbz240-5 | | 5000 | | | | | | 7533×6718×2080 | 50737 |
| Gbz240-5.6 | | 5600 | | | | | | 8133×6718×2080 | 52447 |
| Gbz240-10 | | 10000 | | | | Y225m-4 | 45 | 12593×6718×2080 | 76373 |
| Gbz240-12 | | 12000 | | | | | | 14653×6718×2080 | 85331 |

## Other Feeding Equipment

Heavy-duty Plate Feeder
Middle-duty Plate Feeder
Light-duty Slat Feeder
Chute Feeder
Disk Feeder
Pendulous Feeder
Electromagnetic Vibrating Feeder
Belt Feeder
ZSW Vibrating Feeder
GZG Inertial Vibrating Feeder

# DT II Belt Conveyor

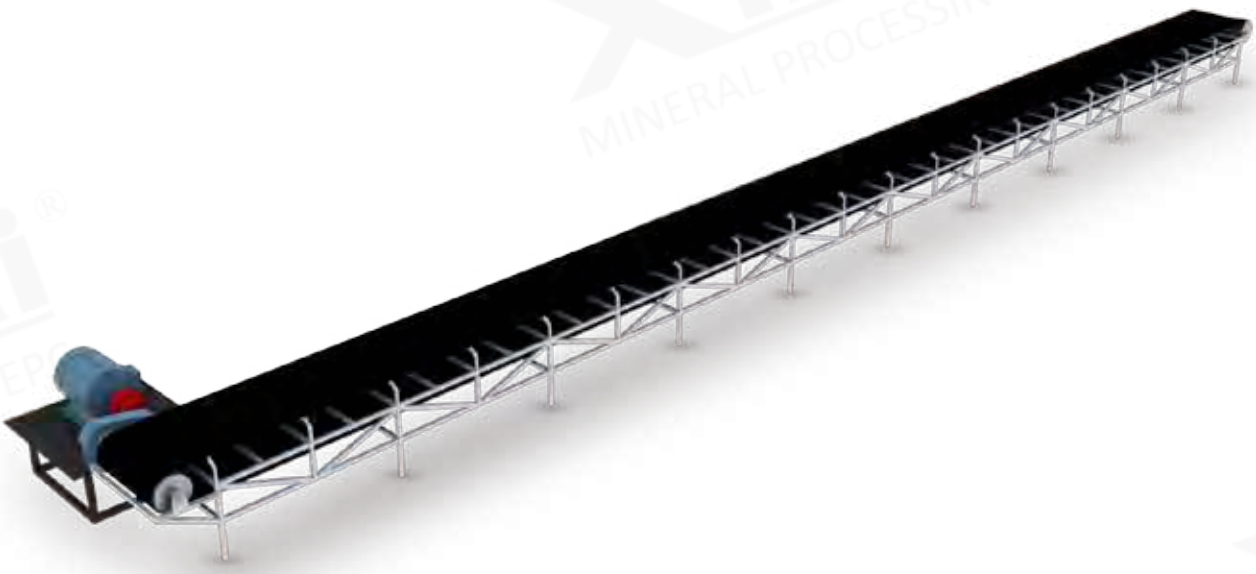
## Principle

DT II belt conveyor is a general series product, and it can be widely used in the industries such as metallurgy, mine, coal, port, power station, building materials, chemical, light and oil. The transportation system combined by single or multiple machines is used for conveying materials and applied to convey bulk materials with loose density of 500-2500 kg/m³ and unit goods

The suitable working environment temperature for DT II belt conveyor is generally -25~+40℃ . It is required that the materials temperature shall not be higher than 70℃ ; heat-resistant materials under 120℃ can be conveyed by heat-resistant rubber belt conveyor while it is unfavorable for materials at a higher temperature. Oil-resistant, acid and alkali resistant rubber belt type plastic belt should be applied to convey materials with acidity, alkalinity, oil and organic solvents.

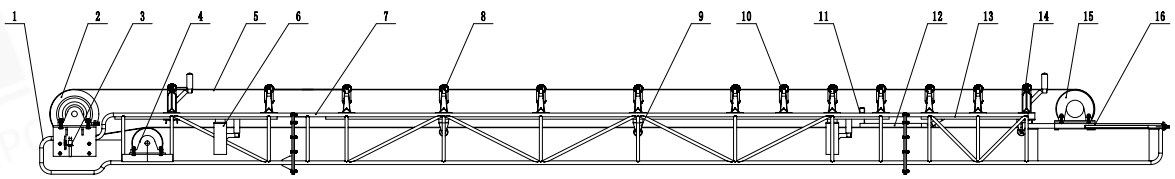
DT II belt conveyor shall be designed according to component series. Designers can select models and designs according to the technological requirements for conveying, different terrains, and different operating conditions, then combine into the whole conveyor. This series of components can meet the requirements of horizontal and inclined conveying, and it can also apply the conveying form which combines concave arc, segmental arc and straight line.

The size of materials allowed to convey by the conveyor depends on the belt width, belt speed, trough angle, and inclination angle, and also depends on the frequency of big size materials appearance.



## Technical Parameters

| Model | DT II 500 | DT II 650 | DT II 800 | DT II 1000 | DT II 1200 | DT II 1400 |
|---|---|---|---|---|---|---|
| Belt Width (mm) | 500 | 650 | 800 | 1000 | 1200 | 1400 |
| Max. Size (mm) | 100 | 150 | 200 | 300 | 350 | 350 |
| Belt Speed (m/s) | 0.3~1.6 | | | 0.3~2.0 | 0.5~2.5 | |
| Conveying Capacity ($m^3/h$) | 25~138 | 48~254 | 75 ~396 | 121~810 | 296~1485 | 412~2065 |




### Structure Drawing of DT II Belt Conveyor

1. Headstock
2. Electric roller
3. Spring cleanser
4. Bend roller group
5. Belt
6. Paralell lower centering roller group
7. Intermediate frame
8. Trough roller group
9. Paralell lower roller group
10. Rubber ring buffer roller group
11. Angle steel
12. Non-loaded cleanser
13. Tailstock
14. Trough centering roller group
15. Bend roller group
16. Screw take-up device

## Other Transporting Equipment

TD75 Belt Conveyor

Belt Conveyor with Waved Guard Side

Movable Belt Conveyor

Bucket Lifter

Screw Conveyor

Narrow Gauge Wagon

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