



**圓海機械工程有限公司**  
WONDERFUL CONSULTING FIRM CO., LTD.  
**東北國際機械有限公司**  
NORTHEAST INTERNATIONAL MACHINERY CO., LTD.

The predecessor of our company was “World Product Trading Co.,Ltd.” established in June 27, 1983 At the beginning, the first main business of us was international trading, and then invested in mining machinery. The process is as follows.

**1983**, World Product Trading Co ,Ltd established, conducting the fresh sea product to japan by air directly as the main business.

**1985**, Korea Busan Marine Fisheries Corporation. ordered the raw materials for eel processing and started the bilateral two-way business between.

**1988**, Japan Toyo Living Corporation authorized our company as the exclusive distributor in Taiwan district,took charge of selling the original imported “Toyo Living” dry safe cabinet

**1992**, Started to import the multiple mining mechanism from a famous steel and machinery manufacturer in japan – Kobe steel co,Ltd

**1995**, Establishing Wonderful Consulting Firm Co.,Ltd. ,and set up the factory in Taoyuan in October of the same year. Also started to promote the domestic related business for manufacturing the mining machinery equipment

**1996**, Kurinoto Work Co., Ltd. Started exchanging the technology of the mechanical equipment with our company. In September of the same year, the chemical milling machine by our company as OEM began to export to Japan and started purchasing Kurino Cone crusher. We pushed its usage forward in Taiwan and started researching and developing at the same time.

**2001**, Since the foundation of our company "Wonderful" in 1995, has manufactured a lot of kind of machine and equipment.

We supplied mining, cement, chemical industries and other fields. We have set up our own unique technique for the manufacturing and supplying individual machines especially in the process of crushing, screening, grinding, conveyors, and many other related equipment for the whole plant with these machines and gained a good reputation from domestic market to the whole world.

Our company with advanced professional skill, created many outstanding achievements. The actual sales of our machines reached to more than 100, and the whole plant equipment also amounted to 11 plants.

**2002**, Developed the improved Sand Rod Mill machine, and acquired the patent in Taiwan and Mainland China (patent number : 205856 in Taiwan, and patent number:ZL03276917 - 2 in China). Also start promoting this machine domestically, and to foreign countries. The year sales of RMS2136 rod mill machine in Taiwan (capacity 60 T/H) is six and earns much praise from our client as well.

**2003**, Developed and sold the CCH hydraulic pressure type cone crusher to Japan "Kurinoto" mining machinery. At the same time, the sand-rod mill machine set the outstanding sales to 10 in Taiwan

**2004**, Taking the whole plant creek stone crushing and screening equipment contract from Jiaome Longhai Dou-Shin corporation in Zhangzhou -Mainland China for 1,500 m<sup>3</sup>/10 hours, and production granite 3,000 m<sup>3</sup>/10 hours of creek stone crushing and screening equipment from Tong-Laishin company in Ilan Taiwan.

**2005**, We signed the agreement with " Elle Construction Machinery(China) Co., Ltd. -mine department", for the general agency in Mainland China. Also progressing the educational training, technical exchanging, and taking contract for 2,000 m<sup>3</sup>/10 hours of creek stone crushing and screening equipment from Thai-Yang company in Hua-Lien Taiwan at the same time .

**2006**, The market in Mainland China began to germinate for our cone crusher agency –ELLE. At the same time, we took the contract for the 1,500 m<sup>3</sup>/10 hours of mountain rock crushing and screening equipment in Taiwan. The sales of the sand rod mill machine reached to 25 in Taiwan and exported abroad at the same year.



**2007**, According to the market requirement, we developed the RMS2442 Sand Rod Mill machine (capacity 100 T/H), and sold to Mainland China. At the November of the same year, we got the contract for 3,000 m<sup>3</sup>/10 hours creek stone crushing and screening equipment from Chin- She crushing company in Ilan Taiwan. The sales of the Sand Rod Mill machine RMS2442 (capacity 100 T/H) reached to 2 this year.

**2008**, The sales of our general agency -ELLE for the cone crusher reaches to 50. As to the larger CC60, and CC66 models, they were sold in Mainland China for the first time responding to the market requirement. Looking into the future, we will focus on the quality, production quantity and the technique promoting. Also, we will try to make our mining equipment grows with the earth environment together. Combining the techniques from the well-know factories in Japan and making the high-quality products together. Creating the beautiful future and achieving the everlasting business with our customers.

**2009**, Won the Session 4 Golden Dragon Prize for High Quality Domestic Machine by Hydraulic Cone Crusher.

**2010**, Successfully won ISO9002 Certification.

**2015**, Northeast international Co., Ltd.,The First and only company which manufactures the patented Vertical sand mill in the whole Southeast Asia, successfully integrated its recently-acquired Wonderful Consulting Firm Co., LTD. (WCF) in 2015. WCF now operates as a subsidiary of Northeast International Co., LTD.

**2017**, Complete PT Iron Fist crashed stone 18000T/H crushing project in Indonesia.



## VISION-SUSTAINABLE DEVELOPMENT

Being the fundamental element of the construction, sand, is lavishly harvested. Ignoring the consequences, we leave problems and a non-sustainable world for the future generations... Fortunately, people are aware of the problems, and the government has more strict law and regulation for harvesting. Other than the pressures from the society and government, the depletion of resources is another warning sign.

Changes are needed for the companies for a sustainable future.

Northeast Machinery and WCF offers unique equipment to balance between development and environmental protection. We are looking for a sustainable future, both of the business and the environment.

## IMPROVE CONSTANTLY

Our company established for more than 35 years, provide our clients with the best quality, and the most perfect products and services. We keep promoting our specialty, training professional employees, improving our hardware and equipment, activating the management organization and enhancing our post sales service all the time. Besides, we keep exchanging with the well-known Japanese industries to make sure we stand on the competitive position in the market.

To the 21st century, we will keep adhering our principles - "honesty, humility, reasonable" and trying hard to innovate and then achieving a better goal.

## OFFERING THE HIGH-QUALITY SERVICE

- The technical consultation and providing advices.
- Comprehensive plan
- The machinery produces and sets up
- Post services of the plant sets up

### Quality:

Carry out quality work from heart in order to reach zero defect and perform completely the idea "quality is life of products."

### Service:

Insist customer No. 1 and offer the best service in spare part supply, quality, delivery, design, thought, repair and consulting.

### Innovation:

Perform complete action of innovation and development in thought, product, technical, manufacture process, management and service.





## **Jaw Crushers**

SJ Type Single Toggle Jaw Crushers	P6 – P10
SJS Type Single Toggle Jaw Crushers	P6 – P10

## **Cone Crusher**

CCS Cone Crusher	P11 – P14
CCH Hydrauli Cone Crusher	P15 – P21
CCS Cone Crusher (Spring Type)	P22 – P25

## **Vibration Screen**

VS Horizontal Vibration Screen	P26 – P28
VSI Inclined Vibration Screen	P29 –

## **Vibration Grizzly Feeder**

GF Horizontal Vibration Grizzly Feeder	P30
GFF Horizontal Vibration Grizzly Feeder	P31 – P32

## **XS Sand Washer**

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900R New Vertical Sand Mill	P41 – P45
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## **MLX Series Vertical Grinder Reducer**

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## **Vertical Grinder Reducer**

P55

# SJ / SJS Type Single Toggle Jaw Crushers

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## SJ Type Single Toggle Jaw Crushers

- The jaw crusher is divided into two types for the SJ type and the SJS type. The SJ type has bigger feed inlets, longer crushing course and strong organism, especially, suitable for crushing the bigger original stone. It is commonly used for the initial crush such as rigid ore, limestone, mountain stone, creek stone.

## SJS Type Single Toggle Jaw Crushers

- The SJS type has fast and enduring characteristics. It is commonly used in the mass production, secondary or tertiary crushing such as limestone, mountain stone, creek stone and the raw material of glass kiln industry.

## Jaw Crushers

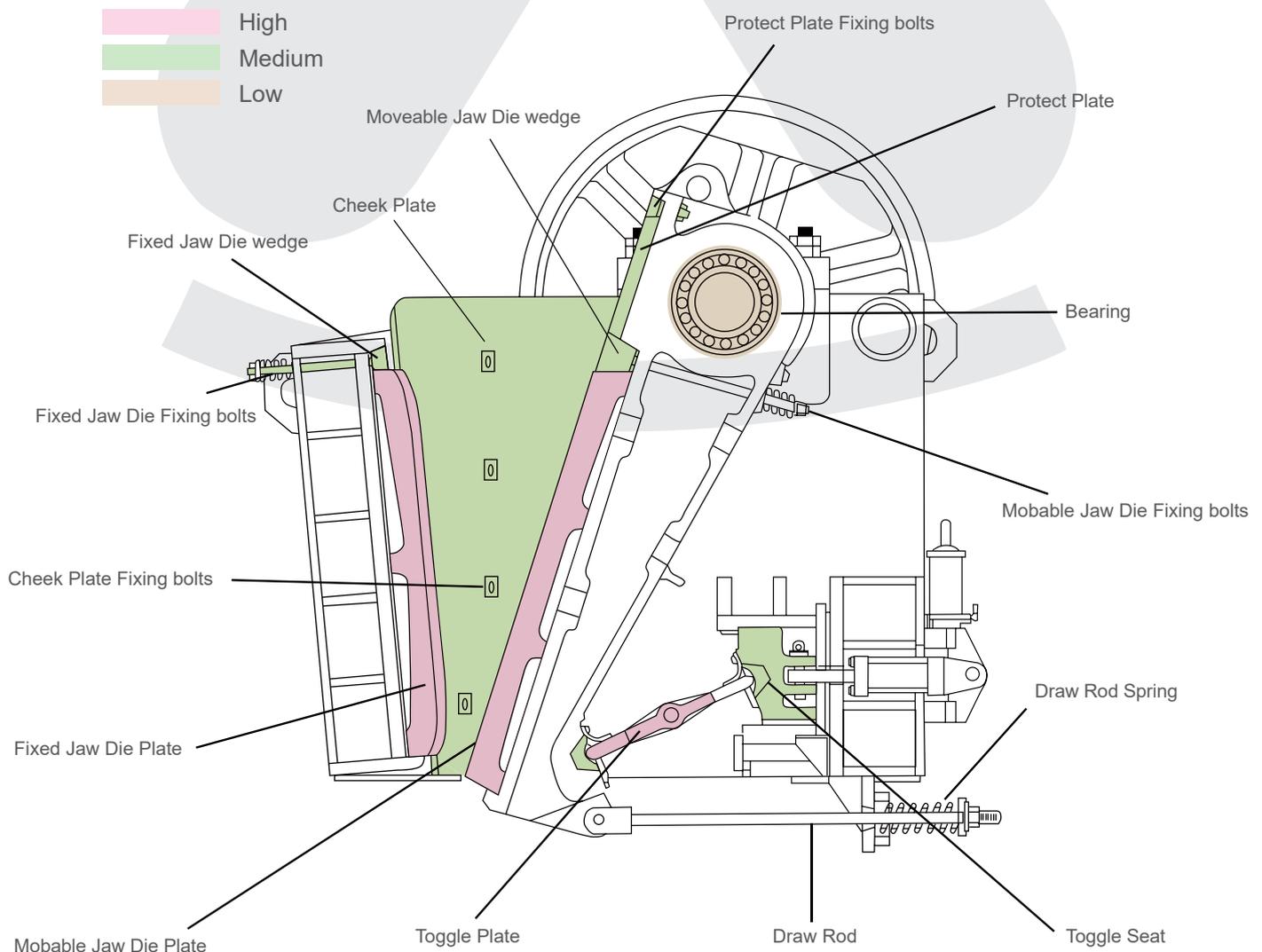




## Feature

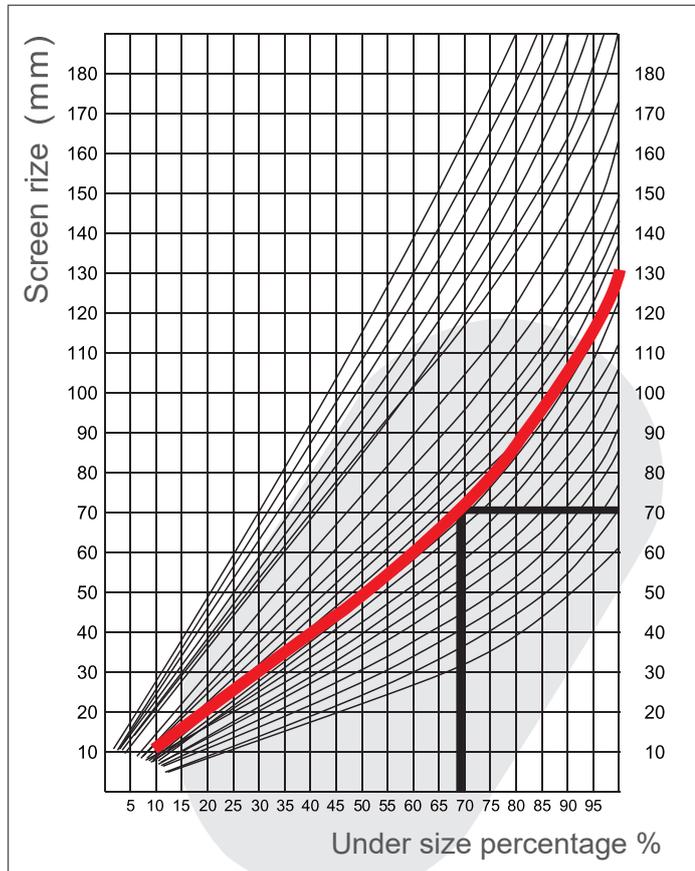
1. The strong structure of the organism removes the welding residual stress completely through the heat treatment.
2. Position of the activity is counterweighed, so the vibrate is small and noise is low.
3. Eccentric shaft uses chrome molybdenum steel material. It has high toughness and impact resistance through precision manufacturing .
4. The heavy burden spherical roller bearings stand long even under strong impact condition still the smooth operation.
5. When crushing various stone material, the hydraulic-pneumatic system operation makes the gap adjustment quickly and effectively.
6. Using the antifriction bearings. The upkeep cost is lowered. Easily damaged parts are easily replaced.
7. Can be used on the fixed or towed broken station.
8. Accurate design, high-quality processing and manufacturing. The production ability is high.

## Preventive maintenance

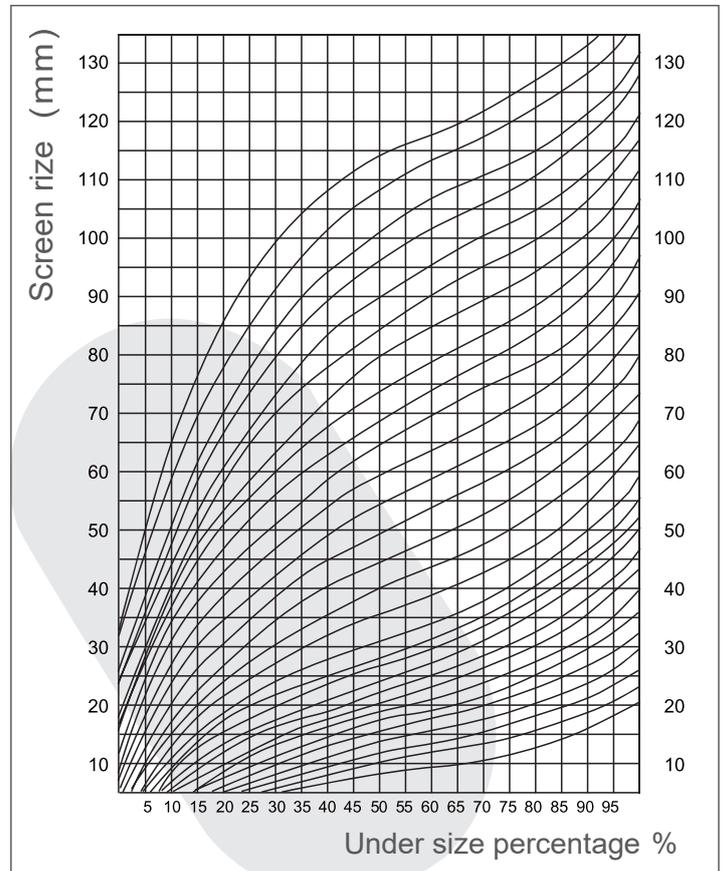


# General Gradation Curves

General Gradation Curves (A)...Not Screened



General Gradation Curves (B)...Screened



## EXAMPLE OF USING THE DISTRIBUTION CURVES

**GIVEN :** Jaw Crusher for primary crushing of river stone with 70mm discharge setting.

**FIND :** The grade distribution in not-screened situation

**GET:** Form the table below and know the percentage of under setting size is 70% and the grade distribution of the crushed stones are  
 44% under 40mm  
 33% under 30mm  
 24% under 20mm  
 With max product size 130mm

## Type MS %

Kind of Feed	TYPE	Lime stone	River Stone	Quarry
NOT SCREENED (A)	SJ type	85-90%	70-75%	85-90%
	SJS type	75-80%	65-70%	75-80%
SCREENED (B)	SJ type	80-85%	65-70%	80-85%
	SJS type	70-75%	60-65%	70-75%



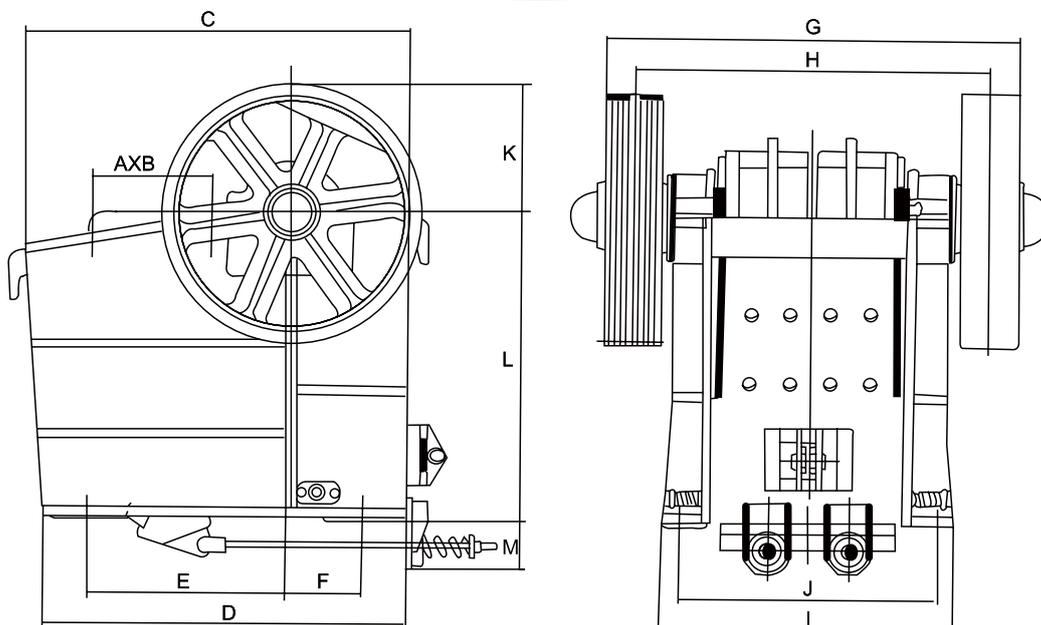
## Standard Specification Table- SJ Type

Model No.	Feed Opening Max mm	RPM	Throughput [TPH] at Closed Side Discharge Opening (mm)										Motor KW		
			Crushing Capacity ,Tons/HR												
			50	70	80	100	125	150	200	225	250	300			
SJ-2416	600X400	275	26	38	45	60	75								40-50
SJ-3020	750X500	250	40	60	70	90	112	130							60-75
SJ-3624	900X600	250			105	130	160	182							80-100
SJ-4230	1,050X750	230				180	210	237	294						120-150
SJ-4832	1,200X800	230				210	250	280	320	350					150-200
SJ-4840H	1,200X1000	200					265	302	370	402					175-200
SJ-5432	1,350X800	200				250	300	340	420	450					175-200
SJ-6040H	1,500X1,000	200					310	350	440	480	510				250-300
SJ-6048H	1,500X1,200	190						415	500	540	580	630			250-300

※Capacity throughput based on continuous regulated feed of clean, dry limestone of normal hardness with a bulk density of 1.6 ton/ m3. Capacity may vary +/- 25% with the size and nature of the rock and the working conditions of the plant.

## Dimension-SJ Type

Model No.	Dimensions (mm)													Weight (kg)
	A	B	C	D	E	F	G	H	I	J	K	L	M	
SJ-2416	600	400	1,550	1,462	770	390	1,524	1,330	1,080	970	485	1,160	175	6,320
SJ-3020	750	500	1,660	1,562	870	390	1,708	1,510	1,270	1,150	601	1,270	180	10,500
SJ-3624	900	600	1,910	1,793	990	400	2,036	1,800	1,510	1,360	671	1,515	235	14,000
SJ-4230	1,050	750	2,280	2,319	1,190	450	2,456	2,110	1,750	1,550	711	1,820	260	22,500
SJ-4832	1,200	800	2,460	2,319	1,370	450	2,356	2,310	1,900	1,770	711	1,820	260	26,650
SJ-4840H	1,200	1,000	2,950	2,705	1,540	620	2,948	2,580	2,040	1,820	994	2,350	330	44,500
SJ-5432	1,350	800	2,400	2,259	1,310	450	2,806	2,460	2,050	1,850	711	1,820	260	27,770
SJ-6040H	1,500	1,000	2,950	2,765	1,540	620	3,248	2,880	2,340	2,120	994	2,350	330	50,380
SJ-6048H	1,500	1,200	3,520	3,260	1,890	670	3,522	3,120	2,450	2,220	1,044	2,920	390	78,000



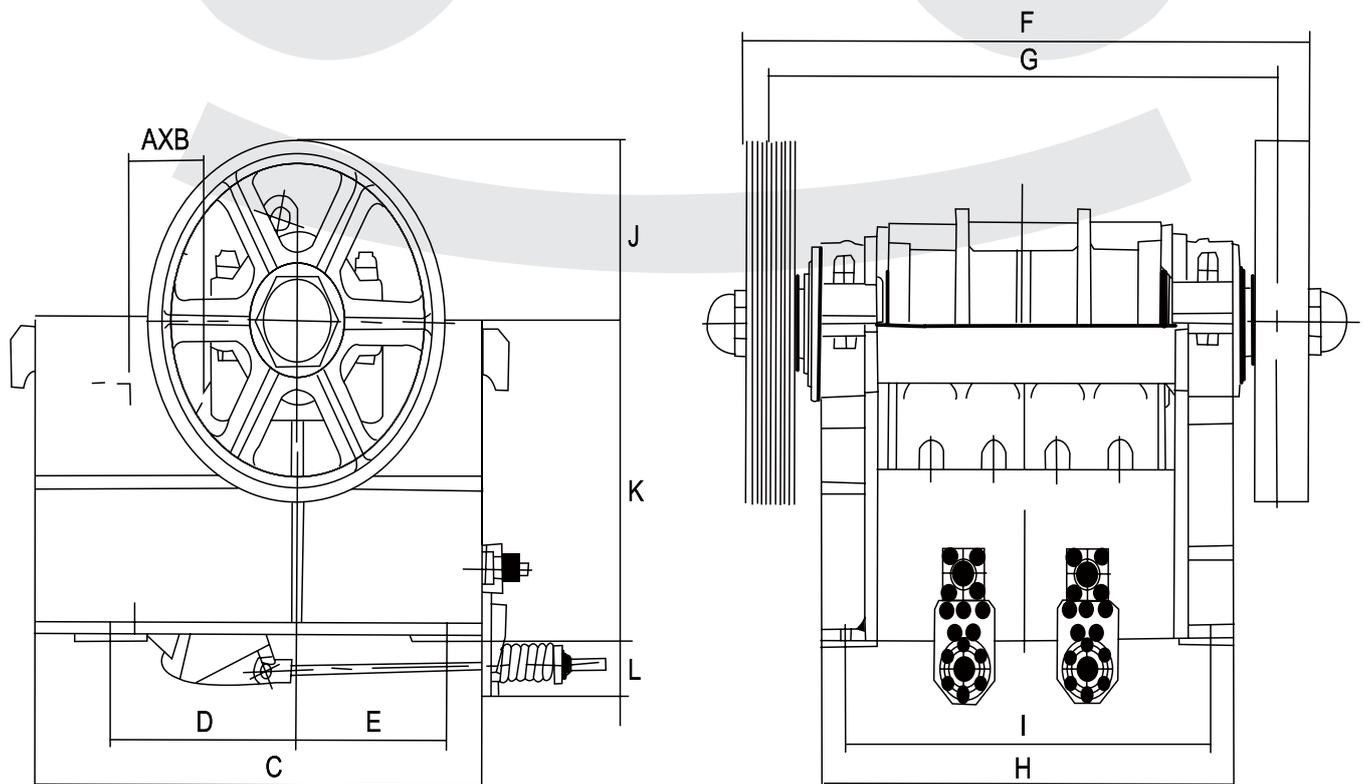
## Standard Specification Table- SJ Type

Model No.	Feed Opening Max mm	RPM	Throughput [TPH] at Closed Side Discharge Opening (mm)								Motor KW
			Crushing Capacity ,Tons/HR								
			10	15	20	25	30	40	50	60	
SJS-248	600X200	300		10.0	14.4	18.5	22.0	29.0			30-40
SJS-368	900X200	300		14.7	21.0	27.0	32.0	43.0			50-60
SJS-3612	900X300	300				35.0	42.0	54.0	65.0		60-75
SJS-4210	1,050X250	275				39.0	46.0	60.0	72.0		60-75
SJS-4215	1,050X375	275					50.0	70.0	84.0	90.0	75-100

※ Capacity throughput based on continuous regulated feed of clean, dry limestone of normal hardness with a bulk density of 1.6 ton/ m<sup>3</sup>. Capacity may vary +/- 25% with the size and nature of the rock and the working conditions of the plant.

## Dimension-SJ Type

Model No.	Dimensions (mm)												Weight (kg)
	A	B	C	D	E	F	G	H	I	J	K	L	
SJS-248	600	200	1,500	700	520	1,468	1,300	1,020	920	435	860	175	4,500
SJS-368	900	200	1,600	760	540	1,906	1,660	1,340	1,230	435	885	175	7,480
SJS-3612	900	300	1,700	860	540	1,906	1,660	1,340	1,230	435	885	175	7,550
SJS-4210	1,050	250	1,720	725	575	2,160	1,960	1,590	1,410	571	1,015	175	10,250
SJS-4215	1,050	375	1,845	900	575	2,160	1,960	1,590	1,410	571	1,015	175	10,500





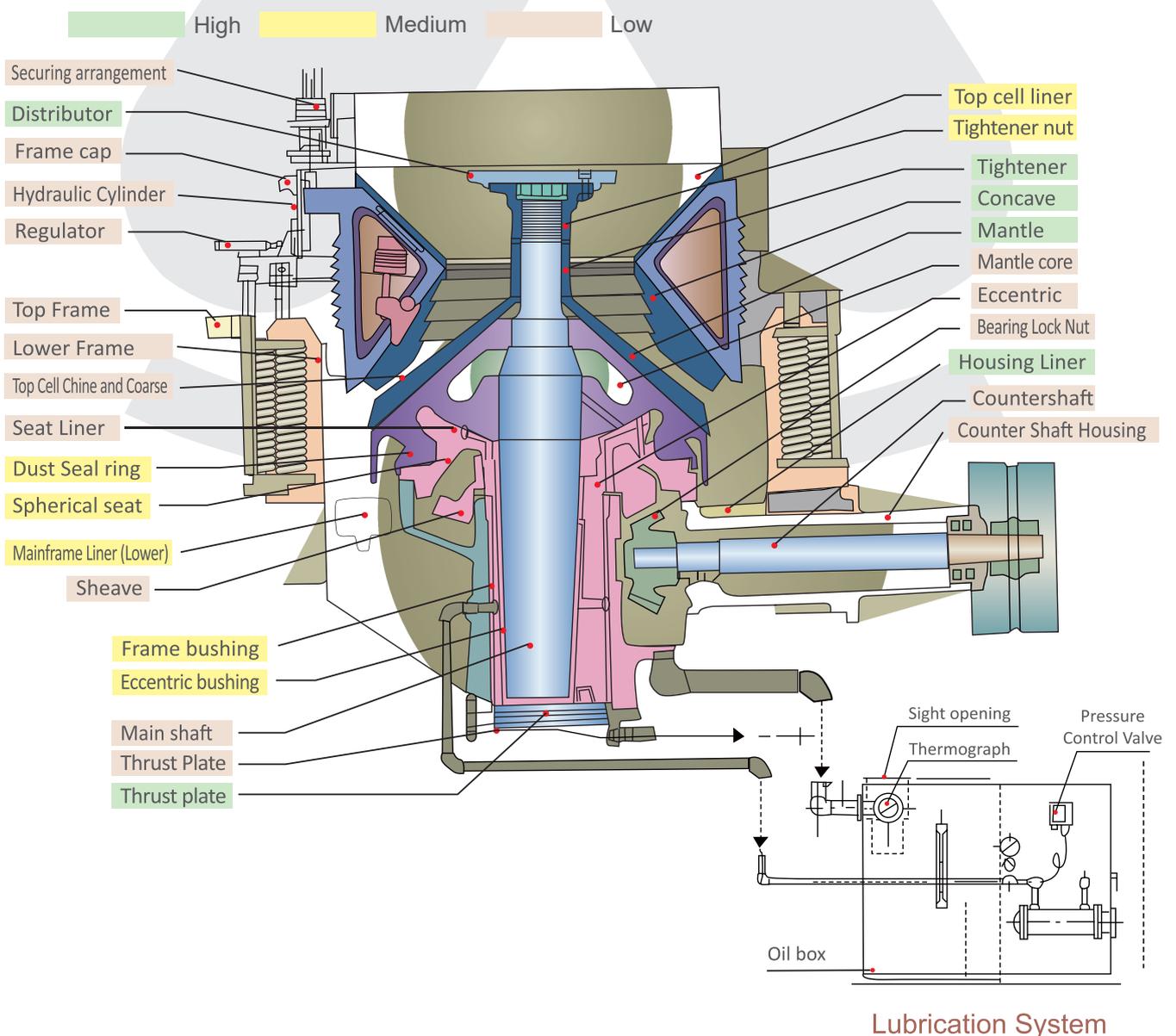
There are generally four types of Cone Crusher manufactured by Wonderful: the CC Standard type, the CF medium type, the CSH type in small, the CSS type. This model is the most progressive crushers, special broken ability, commonly used for the second or tertiary crushing of hard minerals, rocks, the creek stones. Recognized by the industry to use the model as low-cost, simple maintenance, and high productivity.

## Cone Crusher



- The balanced tension of the spring makes the crushing zone remains the balanced and steady broken ability.
- With the oblique gear wheel drive, the operation smooth and stay longer.
- The structure is simple. It's easy to maintain, the upkeep cost is lower, and the damageable parts replaced easily.
- Hydraulic gap adjustment is fast and time-saving.
- The special crushing zone design can reach the largest output.
- Widely range adjustment can satisfy the demand of different style.
- The bearing cap oil seal combines the lubrication oil and airtight bearings, it's safe and reliable.
- The strong organism structure removes the welding residual stress completely through the heat treatment makes tough impact resistance.
- The lubricating oil cools the circulatory system, cooperating with temperature control and pressure control ensures the main engine operates normally.

## Preventive maintenance





## Standard Specification Table

Model No.	Mantle Diameter	Max feed opening (mm)	Min discharge opening (mm)	R.P.M	Belt	C.S.S(mm) Capacity of close discharge(mm)(TPH)										KW	KG
						6	10	13	16	19	22	25	38	51	64		
CC24	600mm	95	10	630	C型		20	25	30	35	45	50	75			37	4,100
CF24		72	6			18	20	25	30	35	40	45	60			37	4,150
CC36	900mm	140	13	630	D型			65	80	100	120	130	180			55	9,500
CF36		105	10				50	65	80	90	100				55	9,550	
CSH36		70	6			60	75	90	105	120					75	9,600	
CC45	1150mm	160	15	610	D型			115	135	150	180	200	250			75	16,900
CF45		120	10				95	110	120	135	165	175			75	17,000	
CSH45		80	10				80	100	110	140					75	17,200	
CC48	1200mm	180	13	580	D型			135	155	170	200	270	300	200		110	23,000
CF48		130	10				90	115	125	150	165	185			110	23,500	
CSH48		90	10				90	115	145	160					130	22,600	
CC51	1300mm	200	16	580	D型				150	180	195	230	310	390		130	22,100
CF51		150	13					115	140	160	180	210			130	22,200	
CSH51		102	10				110	130	170	185					150	22,300	
★CSS51		70	6			100	130	150	165	175	188	235			150	23,500	
CC54	1370mm	215	19	560	D型					200	220	250	350	440		185	25,150
CF54		160	13					130	155	180	200	220			185	25,300	
CSH54		80	10				125	150	190	210	230				220	25,500	
CC60	1500mm	235	19	550	E型					240	265	310	420	525	580	220	37,500
CF60		175	16						185	215	240	265	355		220	37,650	
CSH60		130	10				150	180	210	235	250				250	38,300	
CC66	1680mm	235	20	510	E型						330	390	525	655		250	53,200
CF66		170	16						230	270	330	330			725	250	54,300
CSH66		100	13				185	225	265	340					275	53,100	

※ Capacity in tons per hour bases on closed and open circuit operations of continuous feeding of clean and dry materials with a bulk density of 1.6 ton/cub .Capacity may vary plus or minus 20% on operation conditions, such as method of feeding ,the weight ,cleanlines contentss and moisture contents of the material and fracture pattern...etc.

★ The red profess Special machine types have to be used on particular dry type sanding machines.

## General Gradation Curves

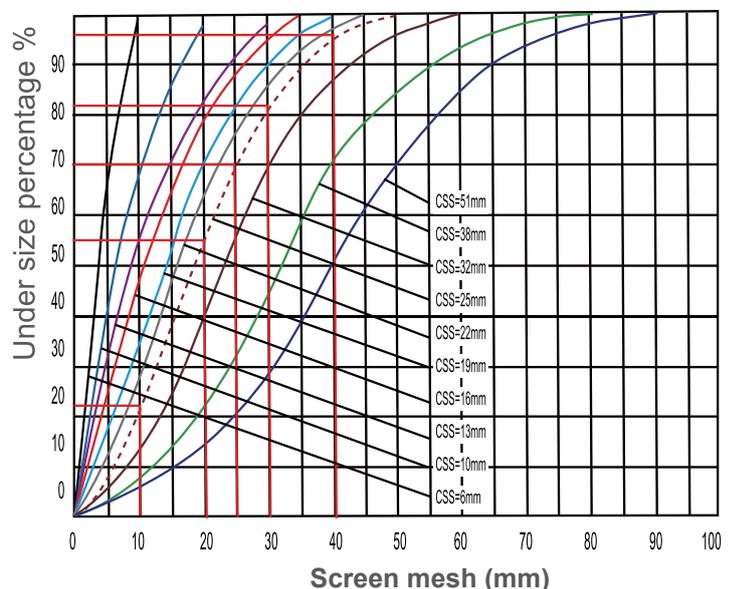
(G): CF Cone crusher for Primary crushing of Granite with 25mm discharge setting

(F): The table below know the Percentage of under setting size is 70% and the grade distribution of crushed stones

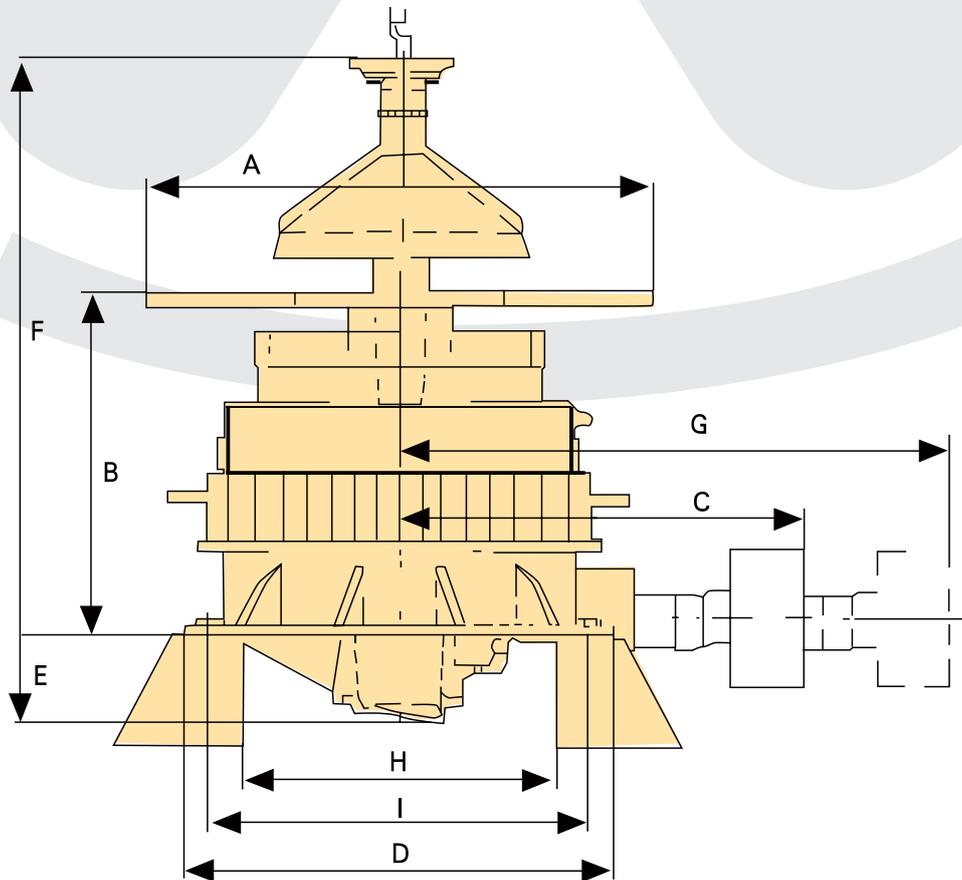
(G): Capacity size 50mm, 40mm crushed 95%, 20mm below are 54%, 10mm below 22%.

## Screen size Percentage

SIZE	Coarse Crushing	Medium Crushing	Fine Crushing
Lime stone	65~75	70~80	65~85
Granite	60~70	65~75	65~80
Quarry	55~75	55~80	65~90
River stone	60~70	65~75	65~80



mm \ Model	24	36	45	48	51	54	60	66
<b>A</b>	1,030	1,930	2,285	2,285	2,285	2,500	2,680	2,960
<b>B</b>	1,230	1,830	1,750	2,120	2,120	2,255	2,580	2,780
<b>C</b>	1,097	1,536	1,666	1,905	1,905	1,950	2,206	2,450
<b>D</b>	1,250	1,530	1,760	2,020	2,020	2,200	2,450	2,650
<b>E</b>	336	395	516	800	800	615	730	750
<b>F</b>	1,820	2,650	3,000	3,140	3,140	3,250	3,500	4,300
<b>G</b>	1,597	2,186	2,415	2,755	2,755	2,800	3,156	3,500
<b>H</b>	750	1,100	1,200	1,300	1,300	1,400	1,750	1,900
<b>I</b>	1,015	1,400	1,580	1,765	1,765	1,950	2,200	2,350
<b>Main Parts Weight (T)</b>								
Lower Frame	2.07	5.30	10.5	13.30	13.30	15.00	20.30	22.00
Mantle Core	0.55	1.55	2.87	3.45	3.50	4.10	7.00	9.20
Top Frame	1.05	2.10	3.55	4.50	4.35	5.10	8.50	10.80
Countershaft	1.38	0.55	0.80	0.95	0.95	0.95	1.70	2.50



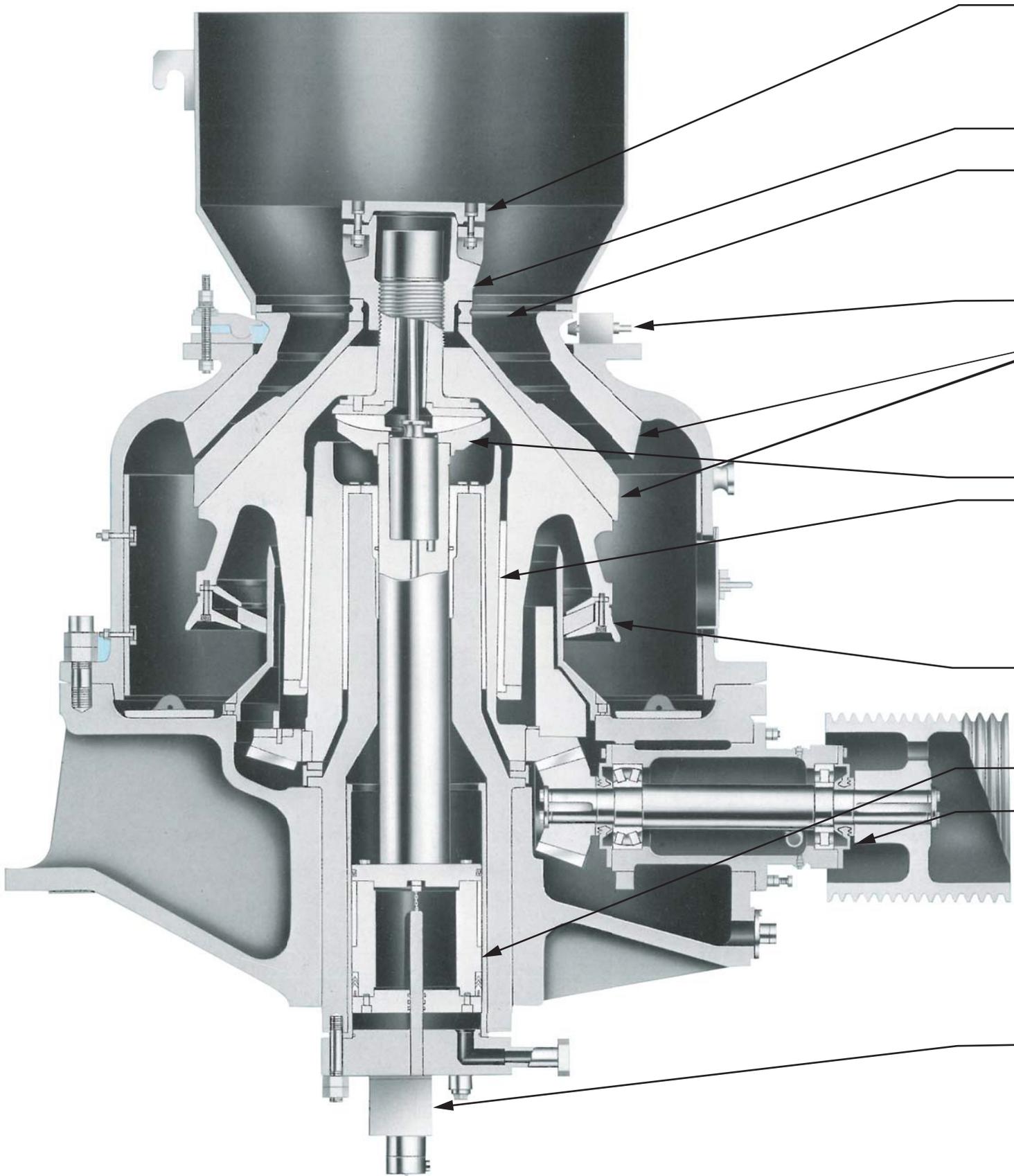


WCF'S Hydraulic Cone Crusher is the best of its kind developed by WCF having more than forty years career in the manufacture of various types crushers with its ample experience and the latest technology. Because of its high crushing capacity and crushed product having superior cubic type obtainable by the unique design, and also extremely stable operation ensured by the easy maintenance, the hydraulic cone crusher is actively used mainly as secondary and tertiary crusher under good reputation both home and abroad.

## Hydrauli Cone Crusher



## Structure





### **Feed plate (Distributor to feed raw material evenly)**

As it gyrates according to the movement of crushing head, raw material is fed evenly to the whole circumference of crushing chamber.

### **Crushing chamber (Crushing chamber with high capacity and good crushing efficiency)**

There is no bearing and spider arm which hamper the flow of raw material.

### **Mantle, bowl liner (Easily replaceable mantle and bowl liner)**

Mantle and bowl liner are made of high manganese/chromium steel casting. The replacement can be carried out in a short time as the machine body is constructed so as to be dis-mantled easily. Further, fillers are not used at all.

### **Eccentric bearing (Eccentric bearing having sufficient allowance against crushing load)**

A bearing of sufficient size incorporated and unique structure-keeping crushing load always on the center of the bearing-bring a long life even under excessive working duty.

Dust seal ring is made of excellent abrasion-resistant nylon casting and its life is long. Air seal system is also provided to ensure complete dust proof construction.

### **Counter shaft bearing (Counter shaft bearing which does not cause wear of seal and heat generation)**

A counter shaft is supported by two roller bearings with oil-pool system. Labyrinth seals are provided at the both ends of housing to prevent the dust entrance and oil leakage, therefore no possible wear and heat generation may occur.

### **Selsyn transmitter (Selsyn transmitter with high precision)**

Vibration and dust proof type selsyn transmitter is incorporated, which transmits the clearance between mantle and bowl liner to selsyn receiver of control panel with high precision.

### **Lock nut (Lock nut which can be used repeatedly)**

As mantle is fixed to mantle core by automatic tightening nut, there is no fear of loosening of mantle during operation. Top shaft is made of special steel and automatic tightening screw is so constructed not to allow dust to enter therein, so there is no fear of damage of thread. Torch ring is provided to facilitate disassembling.

### **Roll unit (Roll unit enabling simple rectification of partial abrasion)**

Roll unit for rotating bowl liner can be used for rectification of partial abrasion on the bowl liner, when it may occur, from the outside without difficulty by means of rotating it at any angle without dismantling hopper and upper frame.

### **Thrust bearing (Thrust bearing having sufficient allowance against crushing load)**

As it is oiled by forced circulation system, it can withstand overworking under wide range of temperature.

### **Cylinder & piston (Compactly incorporated cylinder & piston)**

Cylinder is positioned at the inner part of lower section of main shaft. In order to prevent the abrasion of its sliding surface by packing lip, it is so constructed as to insert hard chromium plated and buff finished cylinder liner.

Piston is provided with packing for lubrication at the upper part and with multi-staged V-packing for high pressure hydraulic oil at the lower part, therefore lubrication oil and hydraulic oil will not mix each other.

# CCH Hydraul Cone Crusher

## Characteristics

Main character of the hydraulic cone crusher are to support the crushing head (mantle and mantle core) through the center shaft from the bottom by hydraulic cylinder and to adjust the discharge setting between mantle and bowl liner automatically and remotely by changing oil quantity in the hydraulic cylinder. This equipment consists of hydraulic cylinder provided at the lower part of frame, hydraulic unit connected with hydraulic cylinder by high pressure piping and control panel attachable to the optional place such as machine-side or operation room.

### 1. High capacity

Crushing capacity has been highly increased and cubical product having excellent cubic type can be obtained as the unique mechanism is adopted and designed for the best crushing chamber and large throw of mantle. Choke-feed is possible resulting in the increment of crushing capacity and the improvement of the shape of crushed product.

### 2. Easiness of adjustment of discharge setting

When mantle of crusher moves up and down, selsyn trans-mitter provided at the lower part of hydraulic cylinder transmit the degree of movement to selsyn receiver of control panel and automatically shows it on discharge setting indicator.

When changing discharge setting mantle freely goes up and down as hydraulic pump acts for upward control and electro magnetic valve acts for downward control by the operation of setting control switch while looking discharge setting indicator. Therefore, setting adjustment is possible more easily, quickly device of the other type crusher.

The adjustment of discharge setting is possible either at the time of machine stoppage, no load operation, or load operation.

### 3. The abrasion loss of mantle and bowl liner is indicated

As the abrasion loss of mantle and bowl liner is indicated on the dial of control panel, the correction of discharge setting is easy and the time to arrange spare part can be predicted.

### 4. In case of entering of foreign matters, safe operation is possible

Even when uncrushable such as tramp iron has entered, it is discharged to outside of the machine by the hydraulically controlled automatic discharge mechanism, thus it ensures to eliminate the outbreak of trouble to hurt the machine body and continue operation without anxiety.

### 5. In case when the machine stops during operation due to the electric failure etc., Crushing chamber quickly emptied

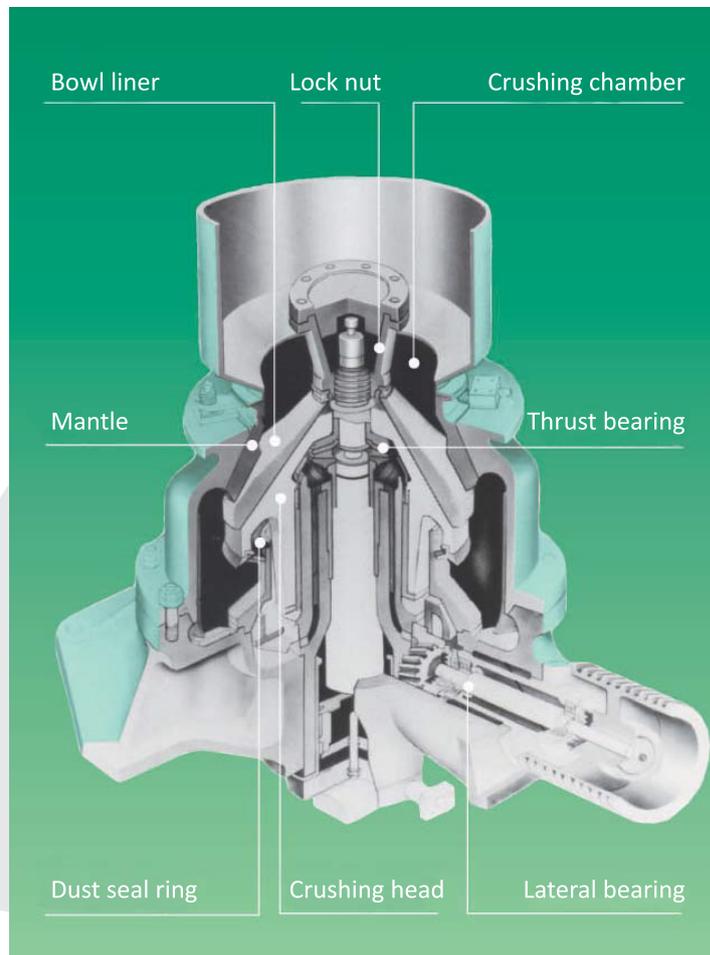
Even if the machine stops during operation under load due to the electric failure etc., raw material in crushing chamber can be discharged by moving crushing head up and down with hydraulic mechanism before re-starting at the current re-transmission. Therefore, the operation can be resumed in a short time.

### 6. Easy replacement of mantle and bowl liner

When replacing consumable parts such as mantle and bowl liner, the replacement can be carried out easily in short time as bearing and spider arm do not exist in the upper part of crushing chamber.



## Construction



### 1. High crushing ratio and excellent grain size

A high crushing ratio and excellent granulation are achieved by the large mantle throw and the efficiently shaped crushing chamber.

### 2. Stable controllability

As there is no spider arm, the stable controllability is achieved without causing a blocking when crushing large-sized rocks.

### 3. Extremely low running cost

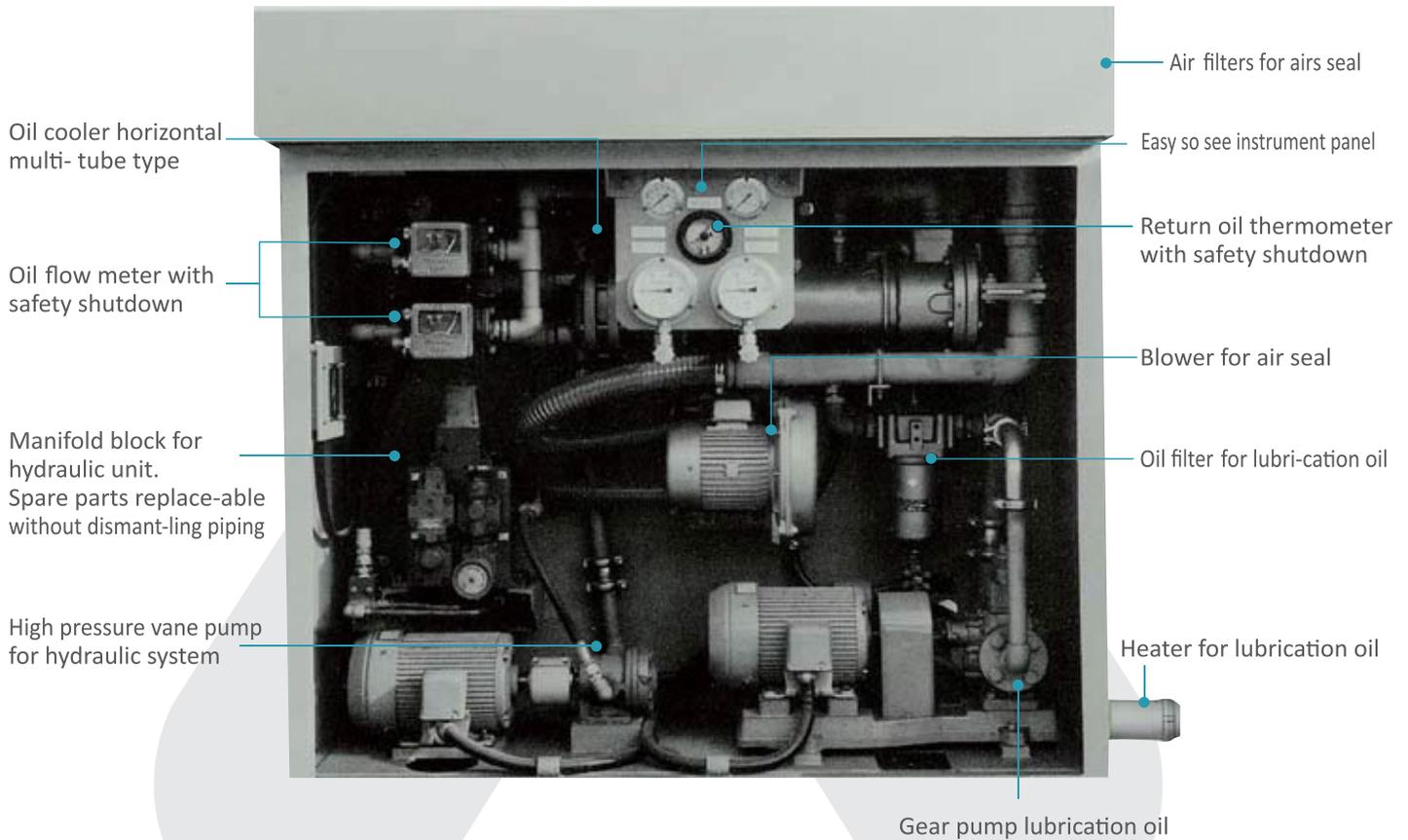
Because of the efficiently shaped crushing chamber, the outstanding efficiency of the mantle bowl liner is achieved. Also, the running cost can be extremely reduced because there is no consumable part, such as the upper arm protector, upper bearing, sealing etc. In addition, the main shaft is not worn or damaged because the main shaft is not stuck out of the upper part of the mantle.

### 4. Excellent controllability and easy maintenance

The set indicator in the control panel shows the abrasion loss of the set and the liner. The set can be adjusted simply by controlling the switch. Also, the maintenance can be carried out easily because it is predictable when the liner should be replaced.

## Oiling Unit

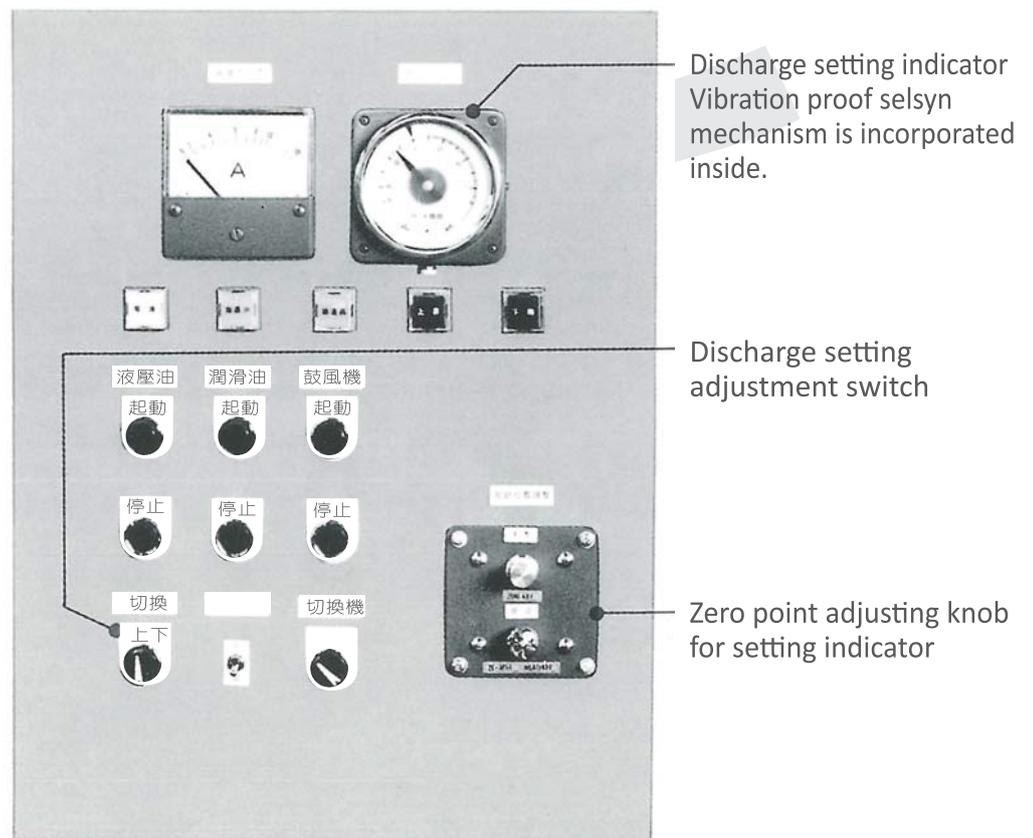
### (Standard Type)



## Control Panel

### (Standard Type)

WCF full-automatic crusher control system with micro-computer (KACS) is also available for CCH hydraulic cone crusher automation. Refer to catalog of KACS for detailed features.





## 40 CCH Hydraulics Cone Crusher

Model No.	Max feed opening (mm)	Shape of crushing chamber Extra	R.P.M	C.S.S(mm) Capacity of close discharge(mm)(TPH)							KW
				6	9	12	15	20	25	30	
4001 M	23X30X44	Fine	915	51	61	70	80				75~113
4001L				53	67	77	88				
400 <sup>1</sup> / <sub>2</sub> M	47X62X90	Fine		*69	80	87	94	106			
4002 <sup>1</sup> / <sub>2</sub> L					*84	96	105	117			
4005 M	82X109X158	Medium coarse				88	99	112	124	137	
4005 L						*97	110	124	138	152	
4007 M	112X149X216	Coarse				101	119	132	146		
4007 L							*125	146	161		

## 50 CCH Hydraulics Cone Crusher

Model No.	Max feed opening (mm)	Shape of crushing chamber Extra	R.P.M	C.S.S(mm) Capacity of close discharge(mm)(TPH)								KW
				6	9	12	15	20	25	30	40	
5001 S	23X30X44	Fine	835	70	83	96	109					113~150
5001M				75	95	110	125					
5001L					103	119	135					
5003 S	47X62X90	Fine		*96	111	121	131	148				
5003 M					*120	138	150	168				
5003 L						*142	162	183				
5006 S	82X109X158	Medium coarse			*111	128	138	158	174	192		
5006 M						*140	159	179	200	200		
5006 L							*164	194	216	238		
5009 S	112X149X216	Coarse					*140	166	185	204	241	
5009M								180	210	232	275	
5009 L								*196	228	251	298	

## 60 CCH Hydraulics Cone Crusher

Model No.	Max feed opening (mm)	Shape of crushing chamber Extra	R.P.M	C.S.S(mm) Capacity of close discharge(mm)(TPH)							KW	
				9	12	15	20	25	30	40		50
6001 <sup>1</sup> / <sub>2</sub> S	34X46X67	Fine	760	120	129	158	190					150~185
6001 <sup>1</sup> / <sub>2</sub> M				137	158	180	217					
6001 <sup>1</sup> / <sub>2</sub> L				*151	174	199	241					
6004 S	62X82X119	Fine		*150	172	186	210	233	256			
6004 M					*195	211	238	265	292			
6004 L						*222	263	293	322			
6008 S	131X174X252	Medium fine				184	218	242	266	315		
6008 M						*209	248	276	304	360		
6008 L								261	305	335	397	
6010 S	161X214X310	Medium coarse				190	226	251	276	327		
6010M							245	286	315	373		
6010 L									301	348	412	
6012 S	190X254X365	Coarse				223	260	287	340	392		
6012M							283	327	387	447		
6012 L									343	428	494	

# CCS Cone Crusher (Spring Type)

## 72 CCH Hydraul Cone Crusher

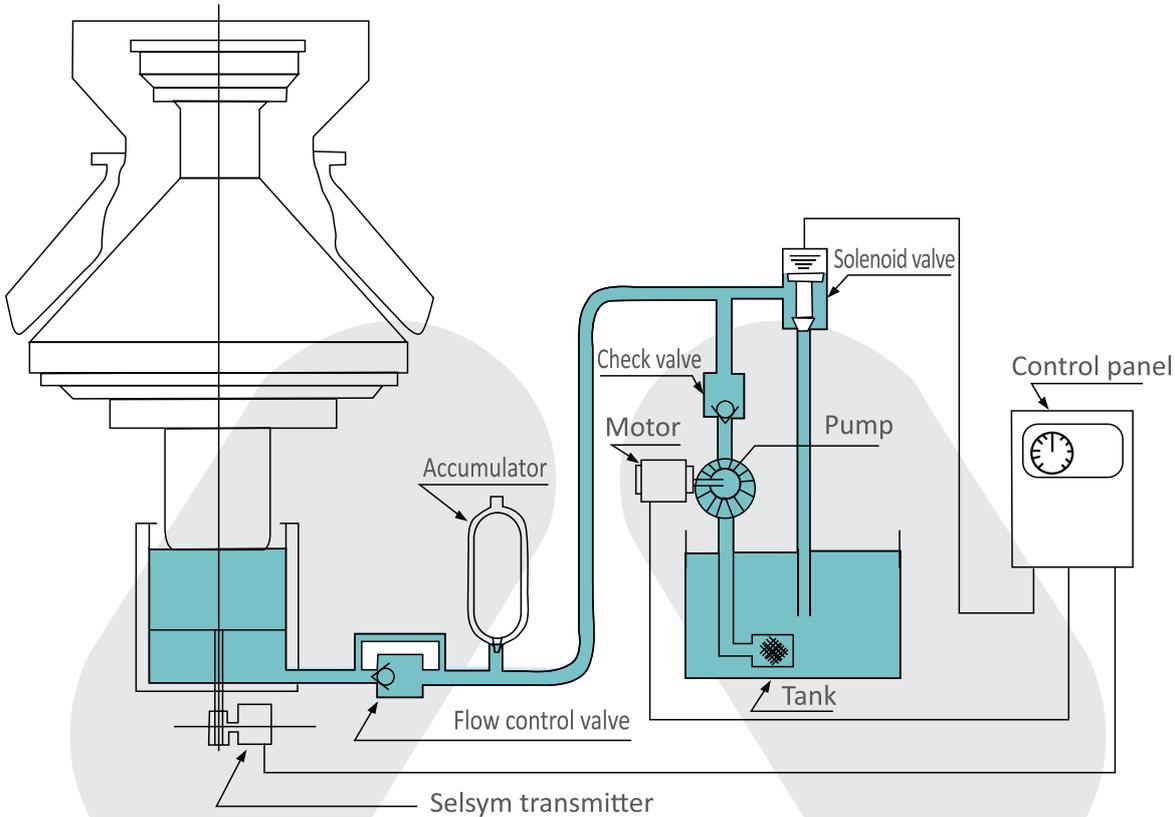
Model No.	Max feed opening (mm)	Shape of crushing chamber Extra	R.P.M	C.S.S(mm) Capacity of close discharge(mm)(TPH)								KW	
				9	12	15	20	25	30	40	50		
7201 $\frac{1}{2}$ S	36X48X69	Fine	720	171	198	225	270						225~265
7201 $\frac{1}{2}$ M				*180	228	259	311						
7201 $\frac{1}{2}$ L					248	282	339						
7205 S	87X117X168	Fine		*217	249	270	304	337	371				
7205 M					*272	309	348	388	428				
7205 L						*320	379	421	463				
7209 S	147X197X284	Medium fine				265	314	350	385	456	527		
7209 M							344	403	443	525	606		
7209 L									417	482	571	660	
7212 S	197X259X369	Medium coarse				*227	328	364	402	475	548		
7212M							*358	418	460	545	630		
7212 L									*433	501	593	685	
7215 S	237X317X456	Coarse					322	377	415	492	568		
7215M									413	478	565	653	
7215 L										493	615	710	

## 84 CCH Hydraul Cone Crusher

Model No.	Max feed opening (mm)	Shape of crushing chamber Extra	R.P.M	C.S.S(mm) Capacity of close discharge(mm)(TPH)								KW	
				9	12	15	20	25	30	40	50		60
8402 S	44X58X83	Fine	680	233	271	309	372						265~300
8402M				*245	310	353	425						
8402L					*337	384	462						
8405 S	90X120X172	Fine		*297	341	368	415	462	508				
8405 M					*370	420	474	527	581				
8405 L						*436	516	573	631				
8409 S	150X200X288	Medium fine				381	431	480	528	625	722	819	
8409 M							493	548	604	715	826	937	
8409 L									596	656	777	898	
8413 S	210X280X403	Medium coarse					426	498	548	649	750	851	
8413M								541	626	742	857	972	
8413 L										648	807	932	
8417 S	270X360X518	Coarse						*492	569	673	778	882	
8417M									*618	769	888	1008	
8417 L											796	966	



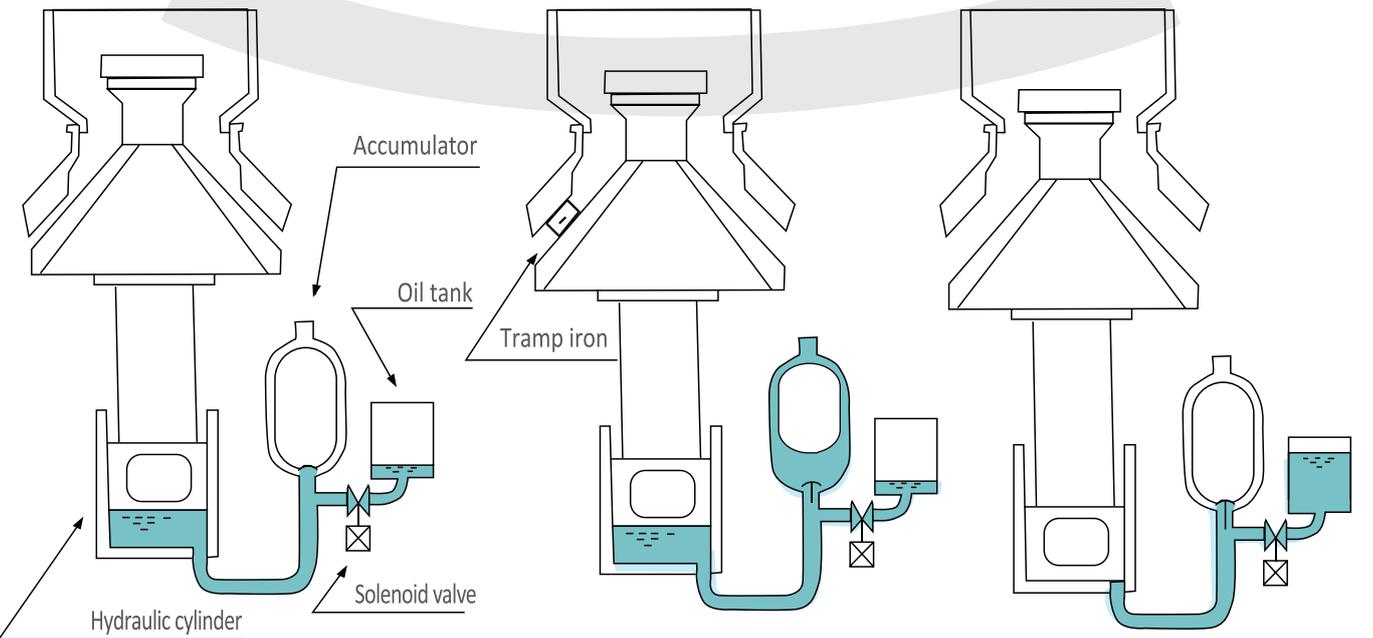
# Hydrauli Control System



Normal crushing condition

In case of entering of tramp iron

In case of crushing head coming down



**Table 1. Crushed product size distribution**

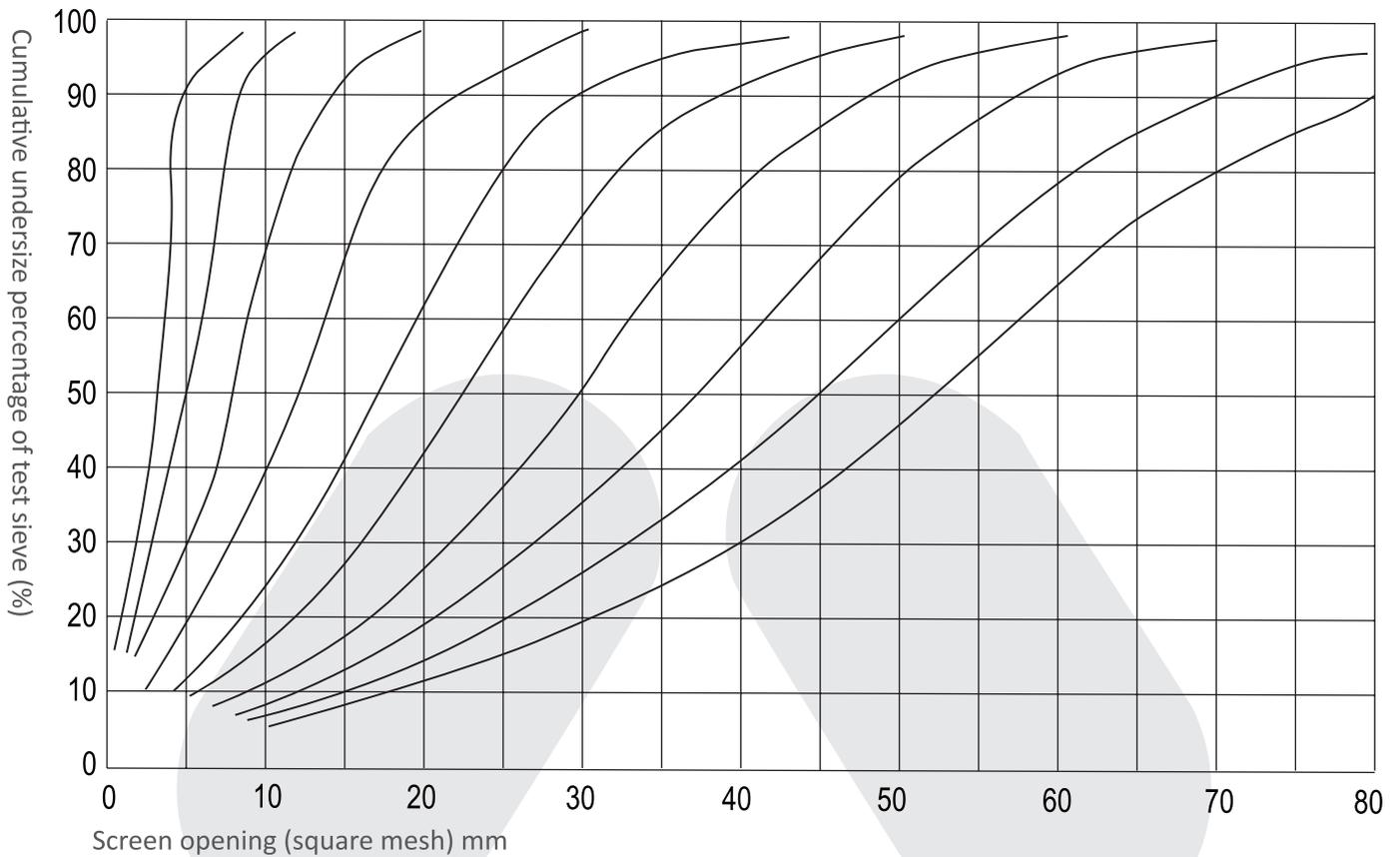


Table 1 shows size distribution of crushed product.

Although size distribution differs according to the property of rock and crushing condition, it shows average crushed. Product size distribution curve integrating the crushing tests on many kinds of rock and ore. The size of crushed product against CSS (closed side setting) is shown by weight percentage of product passing the square mesh sieve equal to the discharge setting dimension.

While undersize productivity ratio varies with characteristics and condition of feed material and shape of crushing chamber. Average value obtained by test results is shown in table 2. Accurate product size distribution should be established by actual testing.

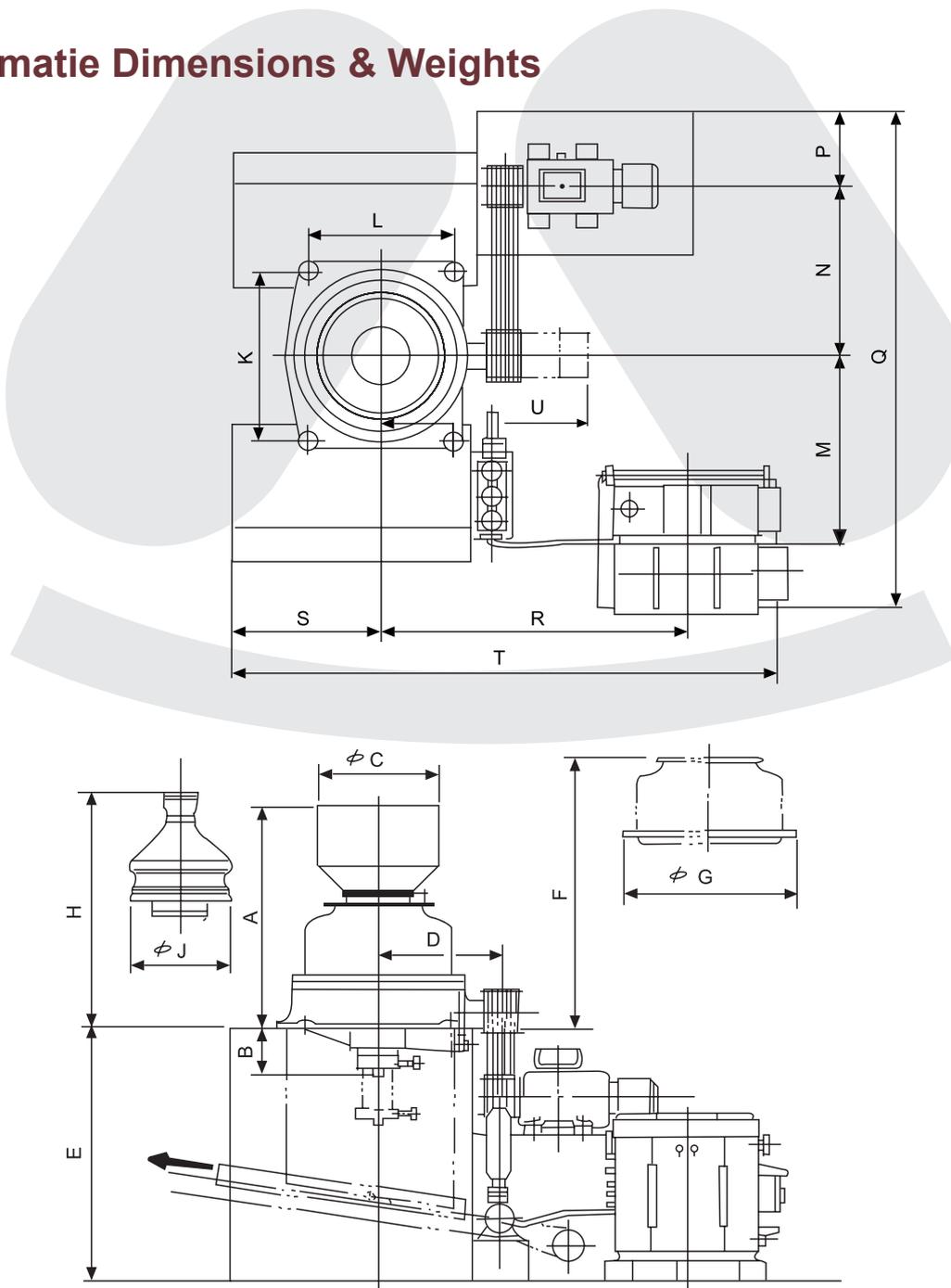
**Table 2. Productivity (%) of undersize**

Kind of rock	Shape of crushing chamber			
	Extra fine type, Fine type	Medium type, Medium fine type	Medium coarse type	Coarse type
Limestone	70~90	65~85	60~80	55~75
Mineral ore	65~85	60~80	56~75	50~70
Andesite, Gray wacke	60~80	55~75	50~70	45~65

Mark Model	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	約重 (公斤)
<b>40 CCH</b>	2125	744	1000	1185	2500	2650	1665	2400	1050	1740	1420	1900	1500	800	4850	3100	1500	5500	2000	12500
<b>50 CCH</b>	2690	849	1250	1480	2800	3300	2080	3000	1260	2170	1770	2100	1800	900	5450	3300	1800	6000	2500	23000
<b>60 CCH</b>	3200	929	1500	1860	3000	4000	2460	3600	1580	2610	2130	2300	2200	1000	6275	4000	2200	7200	3050	40000
<b>72 CCH</b>	4070	1134	1800	2135	3500	5100	2980	4600	1900	3130	2560	2600	3300	1300	8025	4500	2500	8175	3550	63000
<b>84 CCH</b>	4765	1239	2100	2415	3700	5900	3450	5300	2180	3650	2980	2800	3300	1500	8425	4700	2800	8675	3900	95000

Note: Dimensions are approximate, WCF reserves the right to change specifications without notice.

## Approximate Dimensions & Weights



# VS Horizontal Vibrating Screen

Horizontal and super-low setup the structure is strong enduring and high-efficiency screening capability. It can be applied to the screening of 25mm~100mm particle size one rock and the chemistry materials. Straight line vibration horizontal set on the platform this machine use extensively on the screening of the aggregate, ore, limestone, coal, coke, glass, raw materials of kiln industry, cement and other chemistry. Suitable for the dry or wet type screening especially suitable for washing dehydrating and removing the thin powder.

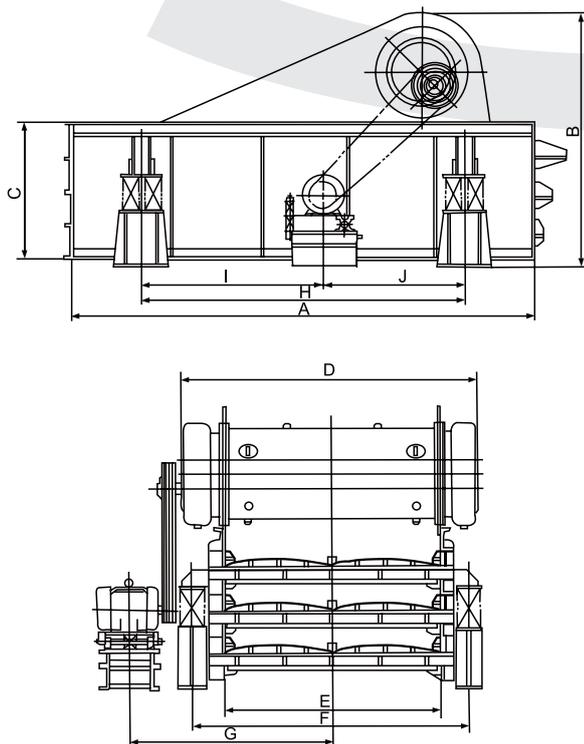


## Horizontal Vibrating Screens Feature

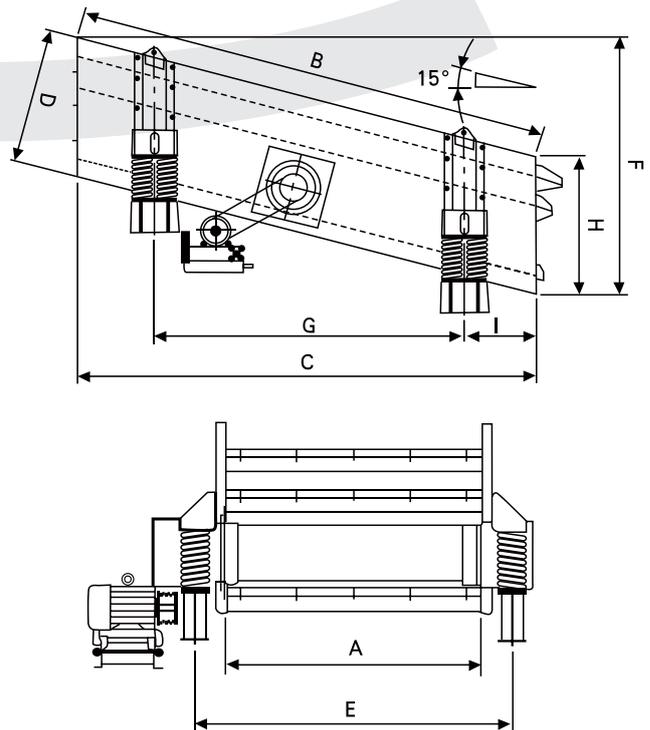
1. Horizontal screen, with two unbalanced eccentric shafts generating strong Horizontal vibration
2. Handles sufficiently a large amount of materials, avoids clogging, suitable for classifying small granules
3. Due to advanced design and engineering technology, a strong centrifugal force is created, with can stabilize the movement of the in-feed.
4. Compared to the same model of other brands, WCF VS screens have a large processing capacity
5. Suitable for stone washing, due to highly efficient screening, clean and uniform grain size can be screened out.
6. Suitable for aggregates used for rein-forced concrete
7. Huge raw material dealing ability jam-free sieves ant-stickiness, and strong dehydrat-ion
8. Steady vibrate wide range application fine design and control makes this equipment with stronger centripetal force.
9. Nice screening effect and low operation cost

Model	Screen Size	Deck	Dimension(mm)										Motor KW
			A	B	C	D	E	F	G	H	I	J	
VS306D		2	1800	1380	720	1315	900	1240	1075	1400	780	620	5.5
VS306T	900X1800	3	1800	1660	1000	1315	900	1240	1075	1400	780	620	7.5
VS308D		2	2400	1380	720	1315	900	1240	1075	1900	1060	840	5.5
VS308T	900X2400	3	2400	1660	1000	1315	900	1240	1075	1900	1060	840	7.5
VS408D		2	2400	1515	750	1687	1200	1620	1313	1900	1060	840	7.5
VS408T	1200X2400	3	2400	1740	1000	1687	1200	1620	1313	1900	1060	840	11.5
VS410D		2	3000	1515	750	1687	1200	1620	1313	2400	1312	1088	7.5
VS410T	1200X3000	3	3000	1740	1000	1687	1200	1620	1364	2400	1280	1120	11.5
VS510D		3	3000	1644	750	2015	1500	1920	1331	2350	1295	1055	11.5
VS510T	1500X3000	3	3000	1980	1000	2106	1500	1920	1505	2350	1185	1165	15
VS512D		2	3600	1630	750	2106	1500	1920	1505	2800	1620	1180	11.5
VS512T	1500X3600	3	3600	1980	1000	2106	1500	1920	1505	2800	1420	1380	15
VS614D		2	4200	2130	1000	2552	1800	2306	1776	3000	1670	1330	22.5
VS614T	1800X4200	3	4200	2270	1200	2552	1800	2306	1776	3000	1560	1440	26
VS616D		2	4800	2130	1000	2552	1800	2306	1776	3350	1720	1630	30
VS616XT	1800X4800	3	4800	2570	1500	2552	1800	2306	1776	3350	1720	1740	40
VS716D		2	4800	2130	1000	2852	2100	2612	1926	3350	1610	1630	30
VS716XT	2100X4800	3	4800	2570	1500	2852	2100	2612	1926	3350	1610	1740	45
VS718D		2	5400	2130	1000	2852	2100	2612	1926	3950	2235	1715	45
VS718XT	2100X5400	3	5400	2570	1500	2852	2100	2612	1949	3950	2130	1820	45
VS720D		2	6000	2130	1000	2852	2100	2612	1926	4050	2200	1850	45
VS720XT	2100X6000	3	6000	2690	1500	2852	2100	2612	1926	4050	2087	1963	45
VS820D		2	6000	2340	1200	3172	2400	2912	2085	4170	2107	2063	60
VS820XT	2400X6000	3	6000	2990	1800	3172	2400	2912	2085	4168	1750	2418	60

**VS model and specification**



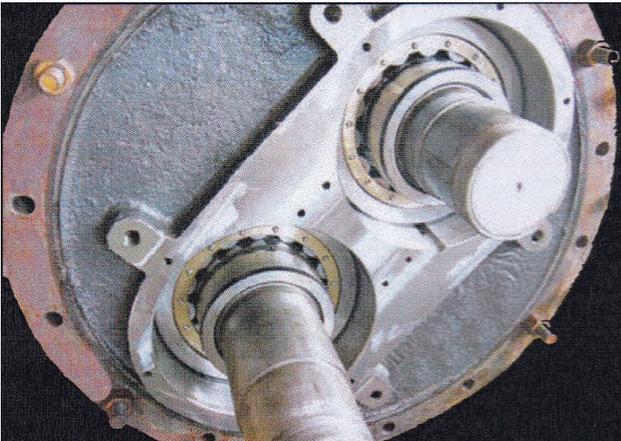
**VSI model and specification**



## Components

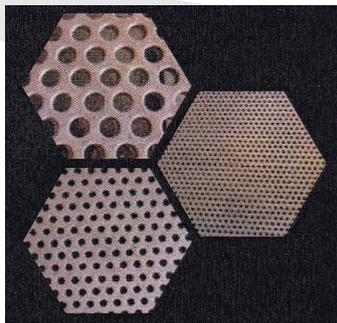
### Eccentric Shaft

The two eccentric shafts are made of carbon tool steel with high tensile strength and high hardness. The shafts are matched with high-quality bearings imported from Japan to facilitate a high workload as well as to ensure outstanding stability which is essential to a smooth screening process.



### Eccentric Shaft

The mesh of the sieve is carefully calculated and designed on the basis of the varied feeding granulari-ty, specific gravity, dryness and viscosity of the screening materials. With the blockage of the vibrat-ing screen being ingeniously prevented, product with an even particle size comes into being in a highly efficient way.



### Oil cooling circulating system

The oil cooling circulating system is a new feature of the FongChuan Vibrating Screen Series. Driven by the hydraulic pressure, cooling water is transported from an external system to the main drive continuously, in order to adjust the high temperature of lubricant generated by bear-ing friction and maintain the best operating temperature range. The wearing of the bearing at the high temperature resulted from the vibrat-ing operation can be reduced by the cooling water, which helps extend-ing bearing life, ensuring the screening work can proceed as stably smoothly as possible.

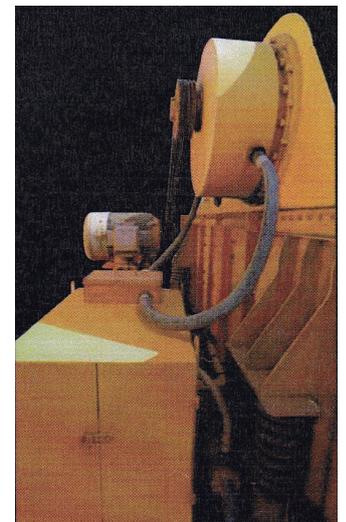


### Eccentric Shaft

With a pair of level and symmetric eccentric shafts.

centrifugal forces in two opposite directions are generated and periodical vibrations with large magni-tude are obtained. The screening materials move horizontally in bouncing paces so that a continuous screening effect is achieved in the meantime.

## Mainframe Of Vibrating Screed



## VSI Inclined Vibrating Screens



1. Rugged construction designed with 15-20 degrees inclination angle
2. Simple design especially suitable in screening applications for coarse stones and ores.
3. The eccentric shaft with counterweight configuration produces regular vibrations. Users can adjust the eccentric counterweight to meet their needs.
4. Thanks to the 15-20 degrees inclination angle plus gravity effect these screens need less drive power, however they can produce a powerful screening effect compared to horizontal models.

model	Screen Size	Deck	Dimension(mm)									Motor (KW)
			A	B	C	D	E	F	G	H	I	
VSI 410D	1200X3000	2	1200	3000	2898	1135	1600	1951	1738	1175	486	7.5
VSI 410T		3	1200	3000	2898	1435	1600	2261	1738	1485	486	7.5
VSI 510D	1500X3000	2	1500	3000	2898	1135	1900	1951	1738	1175	486	7.5
VSI 510T		3	1500	3000	2898	1435	1900	2261	1738	1485	486	11.5
VSI 512D	1500X3600	2	1500	3600	3477	1135	1900	2107	2318	1175	486	11.5
VSI 512T		3	1500	3600	3477	1435	1900	2417	2318	1485	486	15
VSI 614D	1800X4200	2	1800	4200	4057	1135	2240	2262	2608	1175	631	15
VSI 614T		3	1800	4200	4057	1435	2240	2572	2608	1485	631	18.5
VSI 616D	1800X4800	2	1800	4800	4636	1135	2240	2417	3188	1175	631	18.5
VSI 616T		3	1800	4800	4636	1435	2240	2728	3188	1485	631	22.5
VSI 618D	1800X5400	2	1800	6000	5795	1135	2240	2728	3767	1175	920	22.5
VSI 618T		3	1800	6000	5795	1435	2240	3038	3767	1485	920	26
VSI 716D	2100X4800	2	2100	4800	4636	1135	2540	2417	3188	1175	631	26
VSI 716T		3	2100	4800	4636	1435	2540	2728	3188	1485	631	30
VSI 718D	2100X5400	2	2100	6000	5795	1135	2540	2728	3767	1175	920	30
VSI 718T		3	2100	6000	5795	1435	2540	3038	3767	1485	920	33
VSI 818D	2400X5400	2	2400	6000	5795	1435	2840	3038	3767	1485	920	33
VSI 818T		3	2400	6000	5795	1700	2840	3195	3767	1642	930	40

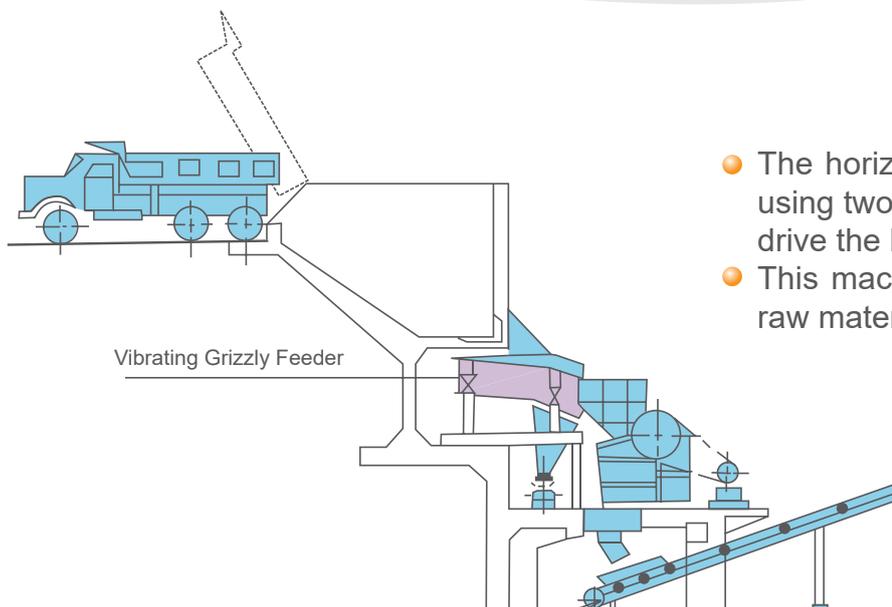
※VSI 614D Pertains above heavy model

# GF Horizontal Vibrating Grizzly Feeder

## Standard specification / Dimension

The machines of this series are generally used on the metallic ore, and limestone. The regular discharges of raw materials can be used for crushers. Screening smaller sandstones can increase crusher's effect. It has simple and strong structure with easy-maintaining advantage. And the feeding quantity is adjustable and can be electric controlled by the speed changing electric motor.

## GF Vibrating Grizzly Feeder



- The horizontal machine set 45 degree tilts, using two turning axles rotate reversely, and drive the linear vibration device.
- This machine can sieves and transfers the raw materials at the same.



## Horizontal Vibrating Grizzly Feeder

Our various types of feeders, widely used for mining, and the ceramic industry.

Also offering steady unanimous material supplying and preventing unknown matters into the first and the second machine such as soil which is not needed.

Not only increasing the process capacity and improving the product quality, but also dealing with cloggy mineral raw materials accurately?because of it's unique structural design of the vibration device.

### Feature

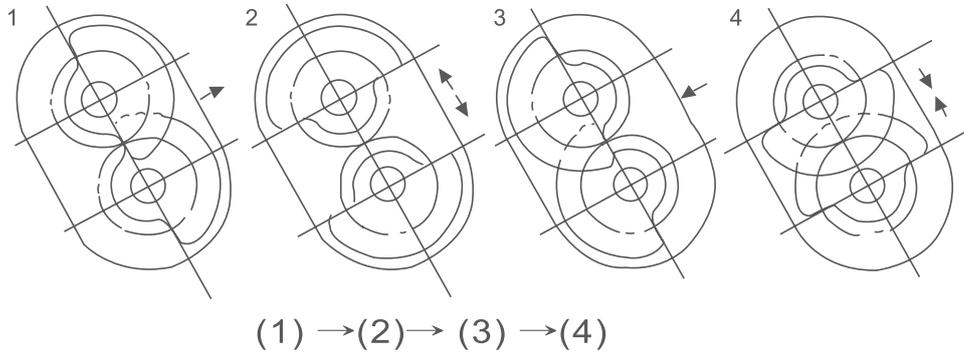
- This machine can sieves and transfers the raw materials at the same.
- The opening is special designed. It eliminates the raw materials throttling effectively, and provides better screening effect.
- Adopting the grind-resisting electric welding process, can reduce the abrasion degree and extend the service life of the machine. It also has four sets of spring stands to make the operation stable.
- The maching operates steadily. In the process of operation, you can utilize the variable speed motor to control the quantity.

## GGF Vibrating Grizzly Feeder

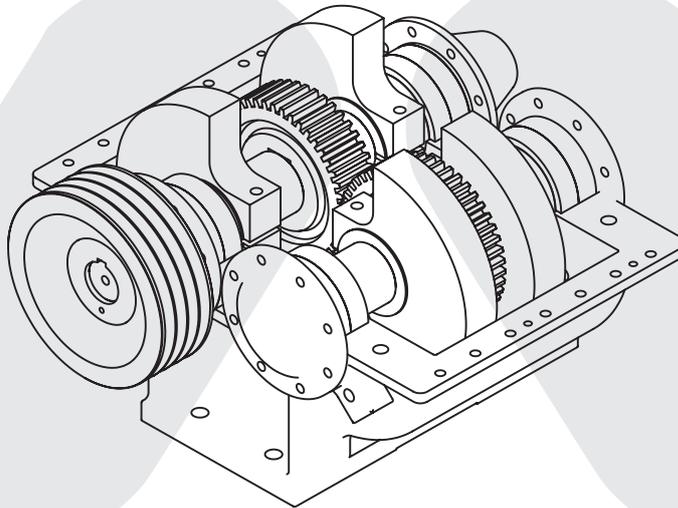


model	width	liength	max.lump size	R.P.M.	capacity (T/H)	motor (KW)
GF(GFF)924	900	2400	450	600-950	100-200	11.5
GF(GFF)1230	1200	3000	600	600-650	160-320	15
GF(GFF)1536	1500	3600	600	600-950	250-500	22.5
GF(GFF)1842	1800	4200	850	600-950	300-600	37.5

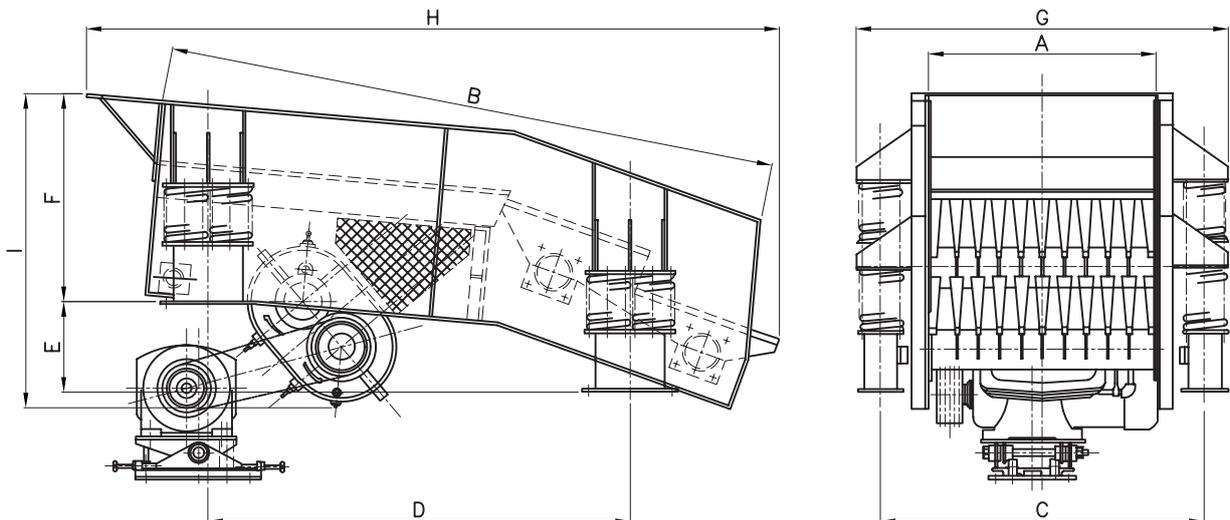
## Vibrating Screen System



## Vibrator



model	Dimension(mm)								
	A	B	C	D	E	F	G	H	I
GF(GFF)924	900	2400	1280	1670	361	840	1460	2760	1260
GF(GFF)1230	1200	3000	1620	2160	468	930	1820	3375	1320
GF(GFF)1536	1500	3600	1940	2570	560	950	2160	3690	1700
GF(GFF)1842	1800	4200	2380	2600	495	1436	2700	4550	1890

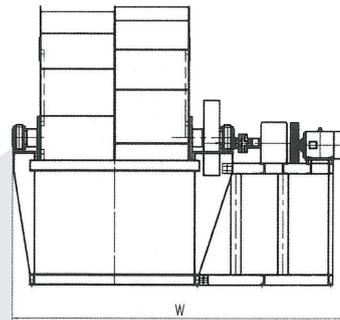
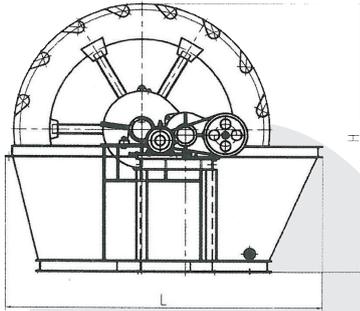




## Brief introduction

Based on the leading technology, and physical condition of sand making industry in domestic, we designed high efficiency sand washer machine. Features:high washing Performance, reasonable structure, and large capacity, little loss of the sand during the washing process especially the driving Part, all of side is isolated with water and sand.

Thus, the failure rate is highly lower than current common sand washer



## Features & Advantages

- Simple structure, easy for maintenance
- High processing capacity and low power consumption
- Low wear-parts consumption, low operation cost

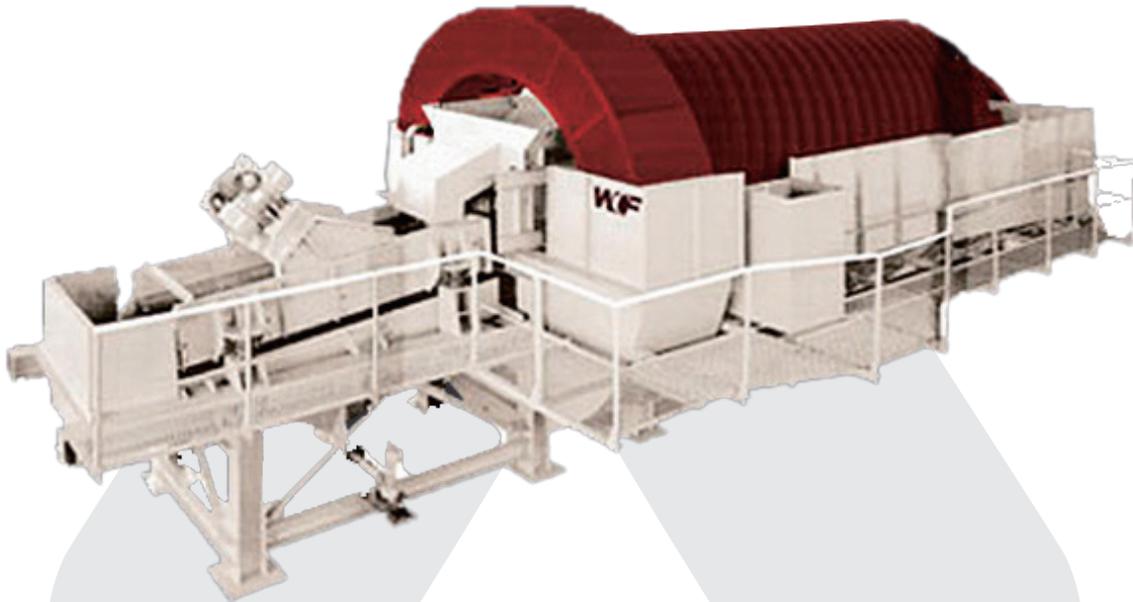
## Technical Parameter

Model	Diameter of the Wheel (mm)	Rotation Speed (r/min)	Max Feeding Size(mm)	Processing Capacity (t/h)	Motor (kw)	Overall Dimension (L*W*H)(mm)	Weight (t)
NE2600	2600	2.5	≤ 10	20-50	5.5	3515*2070*2672	2.5
NE2600-2	2600	2.5	≤ 10	30-70	5.5	3515*2070*2672	2.9
NE2800	2800	1.2	≤ 10	50-100	7.5	3900*3300*2990	3.98
NE3200	3200	1	≤ 10	80-120	11	3965*4440*3410	7.27
NE3600	3600	1	≤ 10	120-180	15	4355*4505*3810	9430

# Screw Sand Washer

## Brief introduction

Screw sand washer separates the dirt and other materials in the sand. The reliable seal structure, overflow plate, and transmission device make outstanding effect during the washing process.



## Standard Specification Table

Model	Total height (mm)	Total length (mm)	Actual area (m <sup>2</sup> )	Diameter of Screw (mm)	Processing Capacity (T/H)	Water volume (m <sup>3</sup> /H)	Vibrating screen(kw)		Motor (kw)	
							S	D	S	D
WSCD3045	3200	5050	13.1	2500	60	120~340	0.4	0.25+0.35	2.2	2.2+1.5
WSCD3060	3200	6550	17.7	2500	60	160~470	0.4	0.25+0.35	2.2	2.2+1.5
WSCD3545	3700	5375	16.3	2900	120	140~420	0.75	0.4+0.35	3.7	3.7+2.2
WSCD3560	3700	6875	21.3	2900	120	190~520	0.75	0.4+0.35	3.7	3.7+2.2
WSCD3575	3700	8375	26.3	2900	120	240~720	0.75	0.4+0.35	3.7	3.7+2.2
WSCD3590	3700	9875	31.3	2900	120	290~870	0.75	0.4+0.35	3.7	3.7+2.2
WSCD4060	4200	7025	24.2	3300	200	210~630	0.75	0.75+0.35	5.5	5.5+3.7
WSCD4075	4200	8525	30.5	3300	200	270~820	0.75	0.75+0.35	5.5	5.5+3.7
WSCD4090	4200	10025	36.8	3300	200	330~990	0.75	0.75+0.35	5.5	5.5+3.7



▲ Ferris Wheel



▲ Screening



▲ Screw

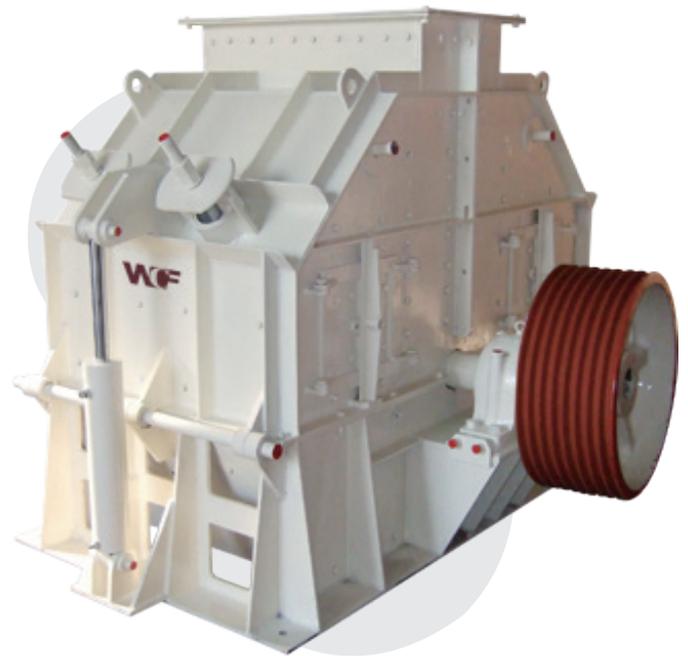
## Brief introduction

The Impact Crusher is divided into two types as the WS type and the HS types. Strong impact force can reduce the broken cost. And the highly grind-resisting parts can lower the cost for the spare parts. It's suitable for crushing general stone materials, ore, lime stone, coke, glass, cement and chemical engineering raw material etc.

## WS Series Impact Crusher

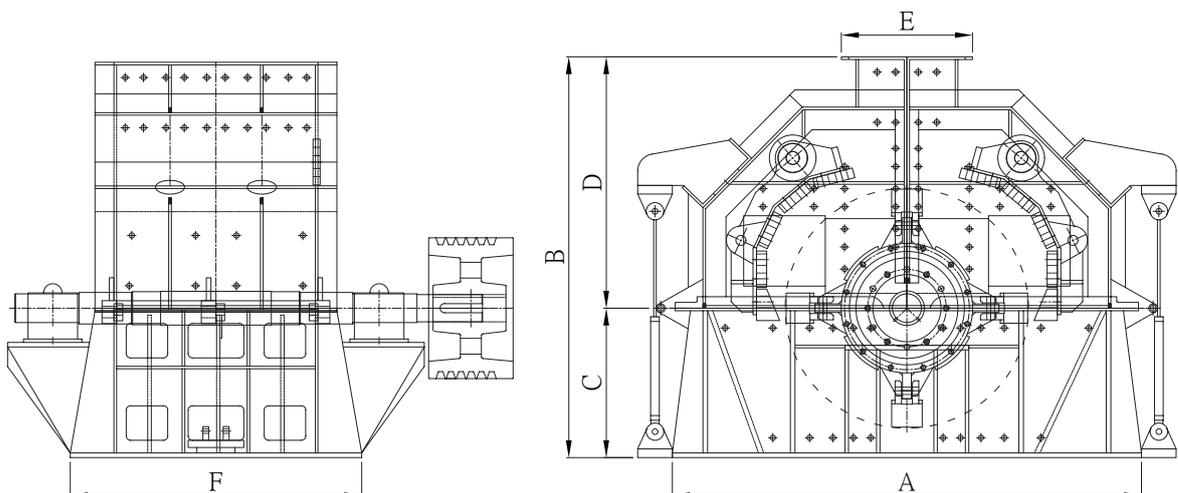
### Features & Advantages

Impact crusher adopts advanced technology and unique structural design, finished products present cubic shape that has no tension and cracks, which makes the particle shape perfect. It can crush stone that is smaller than 500mm with compression strength lower than 350 MPA, such as granulate, limestone, concrete, etc. Impact crusher is widely used in all kinds of ore crushing, supplying the materials for the railway, highway, energy, cement, chemical industry, construction, etc. The output size can be adjusted.



### Main Technical Parameters

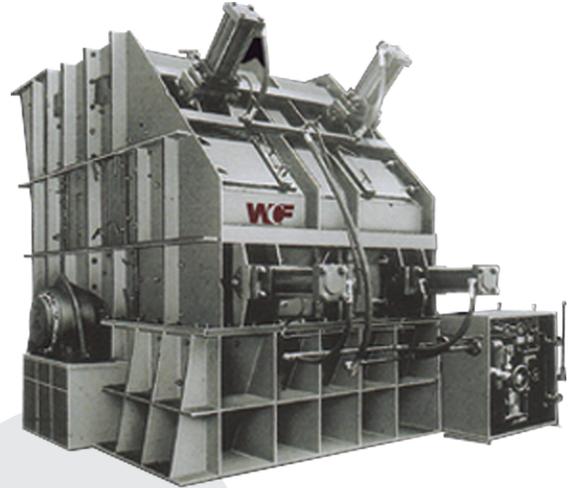
Model	Processing capacity (T/H)	A	B	C	D	E	F	Motor(KW)	Weight(KG)
WS1	10~15	1600	1400	520	880	450	1070	30~40	4000
WS2	15~30	1900	1600	650	950	650	1450	40~50	5600
WS3	30~50	2300	1850	750	1100	800	1700	50~75	6800



## HS Series Impact Crusher

### Features & Advantages

1. Many cavities for even crush, suitable for crushing hard rocks
2. Reasonable interior design makes the products finer and in cubic shape without internal cracks
3. Low and big feeding opening makes it easier for production line to arrange and increase the size of input materials size
4. The hydraulic systems makes it easier for maintenance
5. High endurance metals make the crusher has longer service life



### Tandard Specification Table

Model	CaPacity(h/t)					
	Rotor setting(mm/s)					
	76MM	64MM	31MM	38MM	25MM	19MM
HS3	193	182	165	145	118	90
HS4	209	184	169	148	124	92
HS5	422	382	144	303	254	193

### The Product Fineness Distributes Table-WS/HS Type (Gap1")%

MESH	24m/s	27m/s	30m/s	34m/s
3"(76)	94	97	100	100
2"(51)	91	94	97	99
1 1/2"(38)	85	89	93	97
1"(25.4)	67	73	78	86
3/4"(19.1)	48	56	63	73
1/2"(12.7)	37	43	50	60
3/8(9.5)	29	33	38	48
4M(4.8)	19	21	24	32
8M(2.4)	13	15	17	22
16M(1.2)	9	10	12	17
30M(0.6)	6	7	9	13
50M(0.3)	4	6	6	10
100M(0.15)	3	3.5	5.5	8
200M(0.08)	2	2.5	4	6

### Dimension

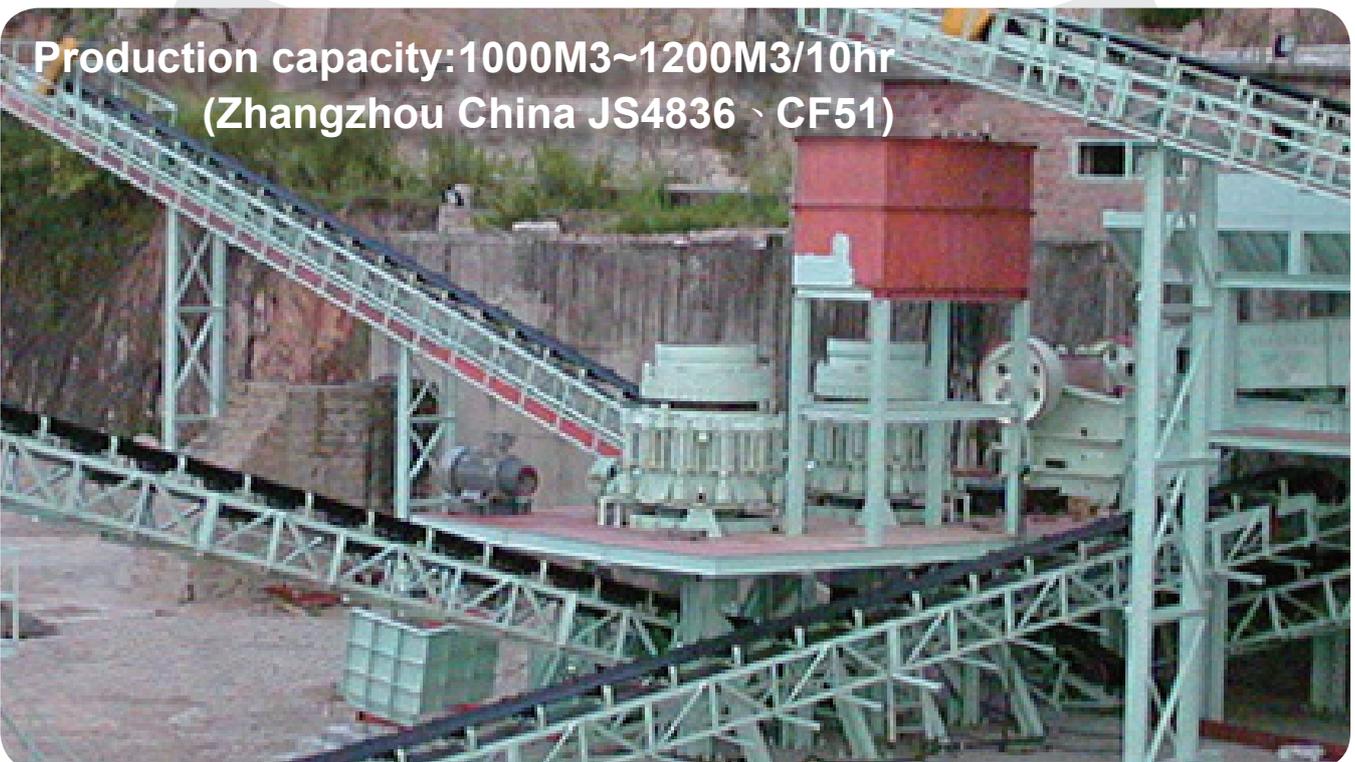
Model	Rotary		A	B	C	D	E	F	G	H	I	Weight (KG)
	Diameter	Width										
HS3	1080	960	2300	1850	650	2050	550	1305	2150	900	1000	11000
HS4	1330	913	2200	2710	1835	2920	680	1525	2385	1065	930	12500
HS5	1330	1520	2200	2710	1835	2920	680	2993	2993	1065	1540	18000



**Production capacity: 1000M<sup>3</sup>~1200M<sup>3</sup>/10hr  
(Hualien Taiwan JS4230 \ CCH40)**



**Production capacity: 1000M<sup>3</sup>~1200M<sup>3</sup>/10hr  
(Zhangzhou China JS4836 \ CF51)**

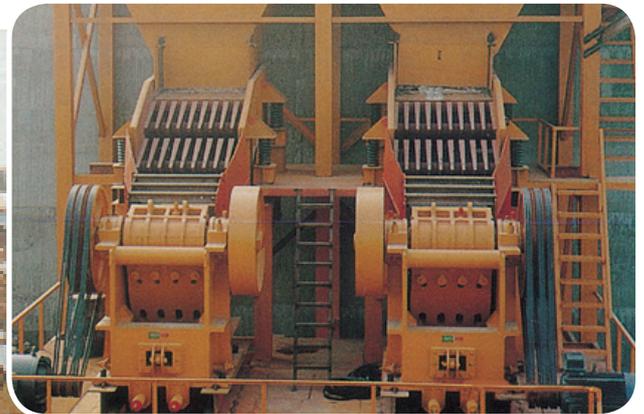


## Client's Working Sites

**Production capacity: 2500M<sup>3</sup>~3000M<sup>3</sup>/10hr  
(Hualien Taiwan JS5432、CC54、CSH60)**

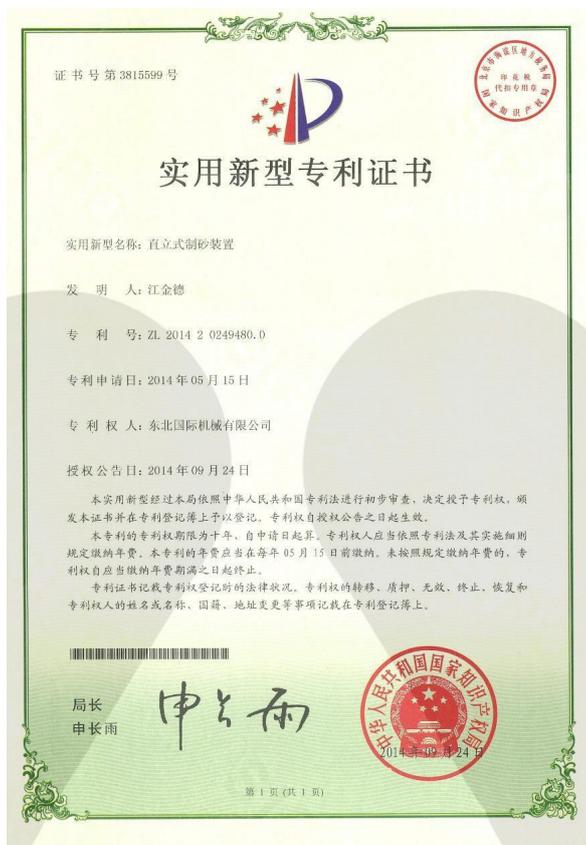


**Production capacity:  
3500M<sup>3</sup>~4000M<sup>3</sup>/10hr  
(Taichung Taiwan  
JS4230、CC51、CSS51)**

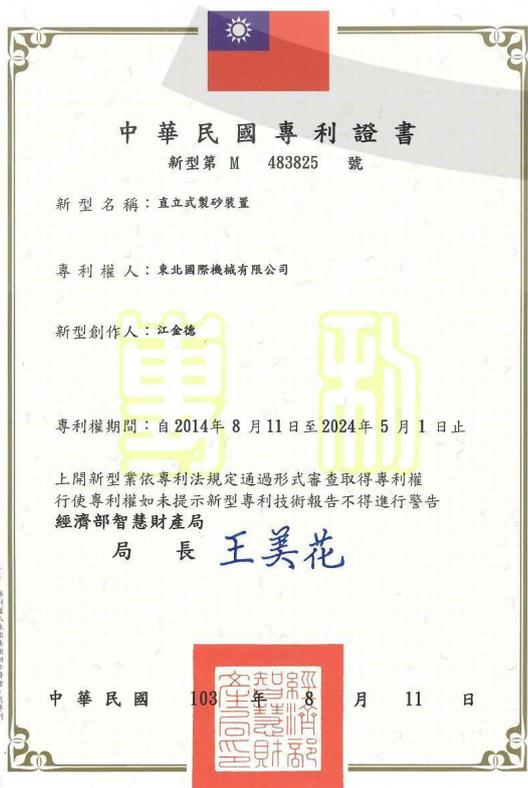




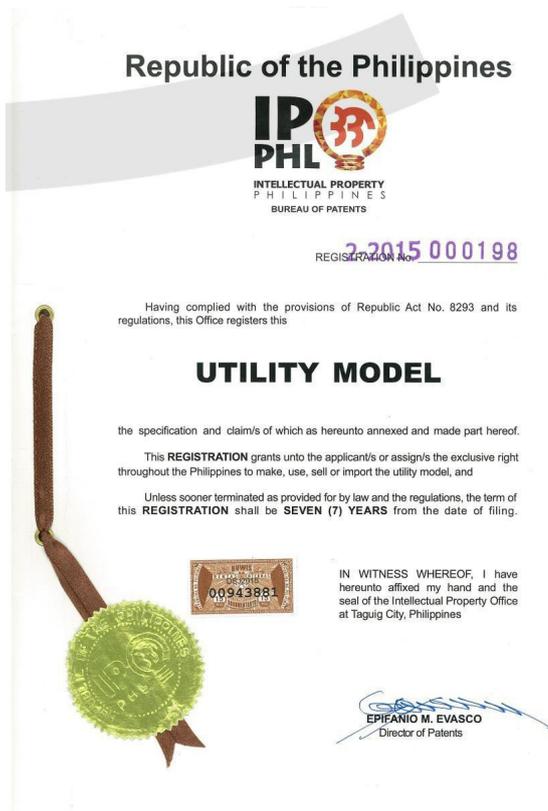
## China



## Taiwan

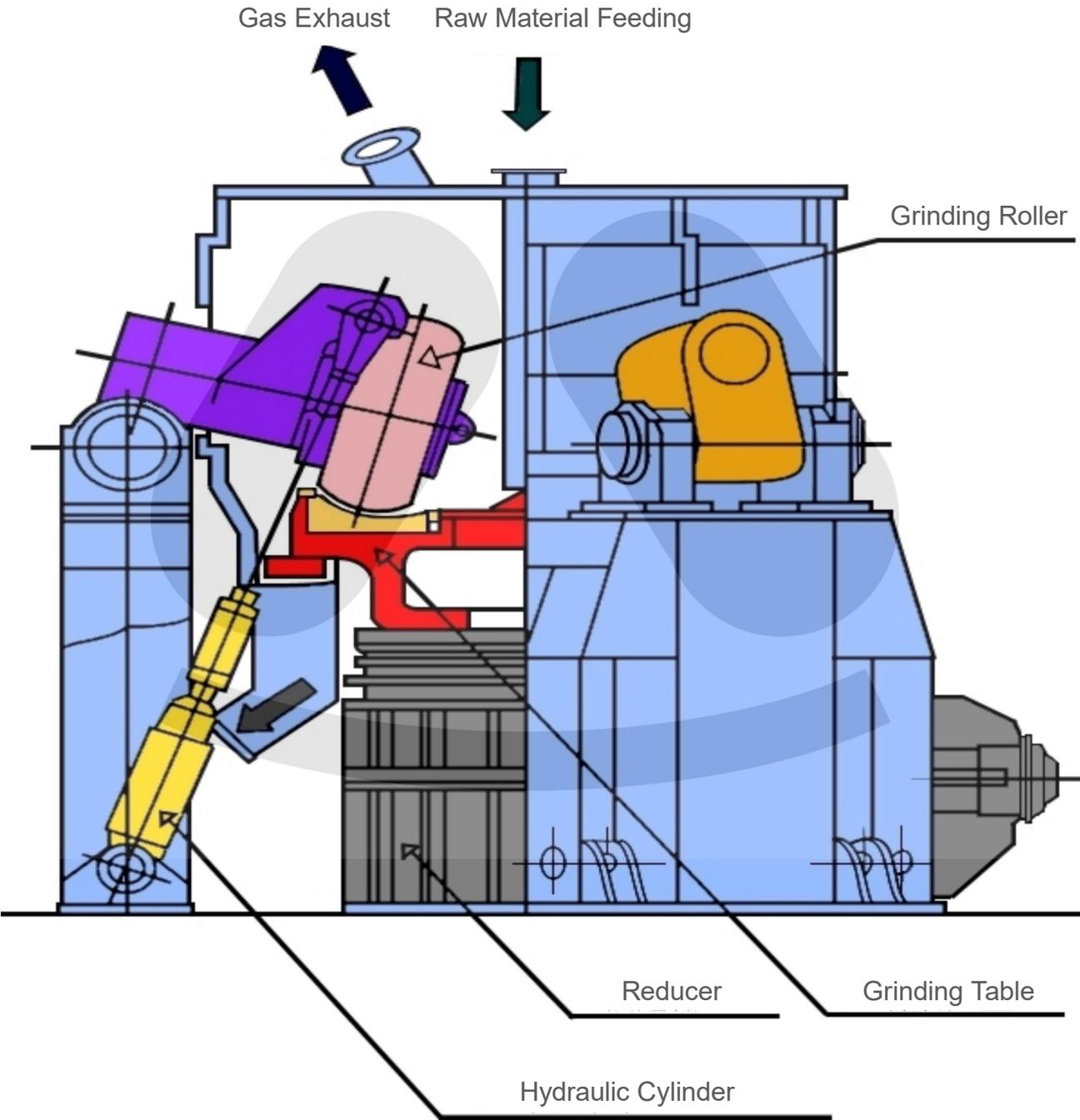


## Philippines



# Vertical Sand Mill

## Sectional Views



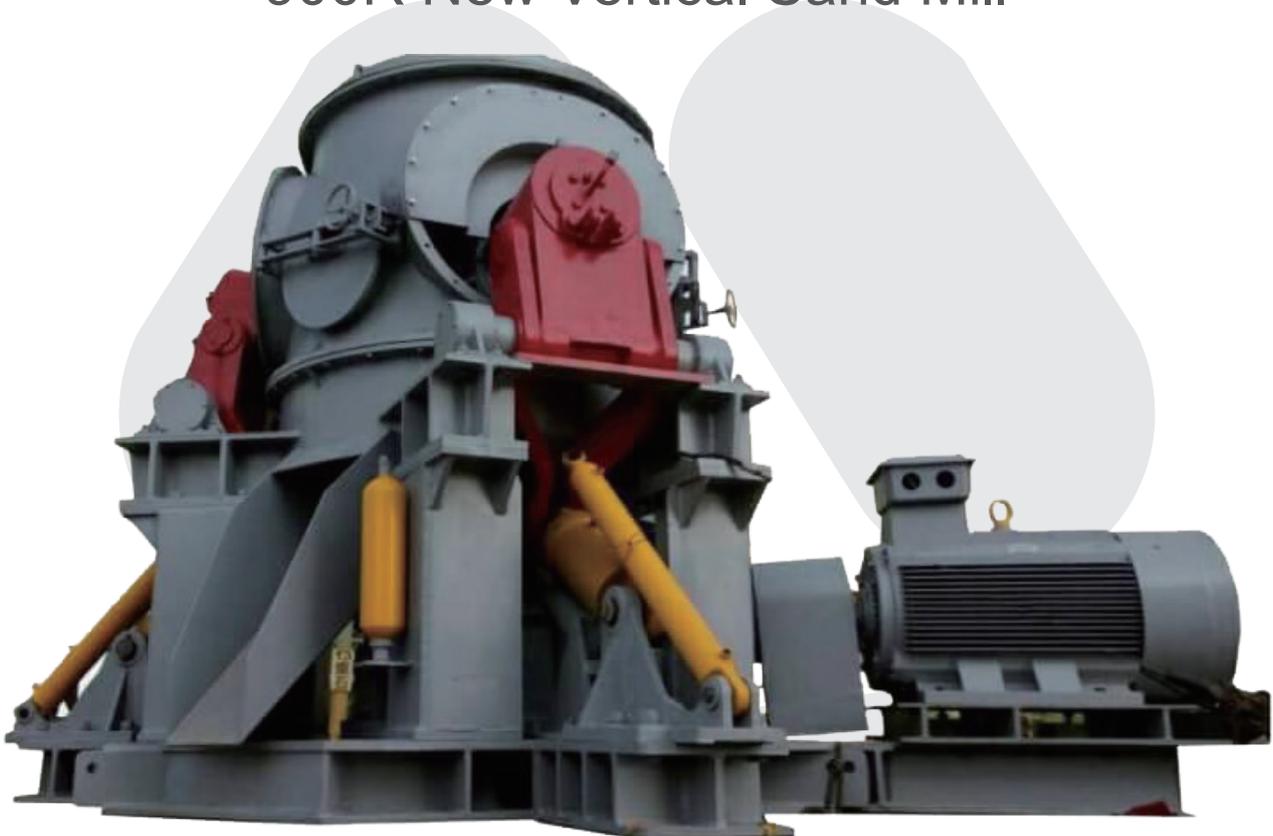


## Vertical Sand Mill

### Brief Introduction

Vertical Sand Mill is developed by our CEO, Mr. Kenny, who designed and developed base on his knowledge and experience in the mining industry. Our company holds the pattern of the machinery in China, Taiwan, Phillipine, Indonesia, etc. The unique design makes it easy to grind the rocks and produce high quality sand, which meets the qualification of national infrastructure standard. It's the most ideal equipment for sanding industry.

### 900R New Vertical Sand Mill



### Capacity of New Vertical Sand Mill

Model	Capacity(t/h)	Production (t/h) When Input Size Is:		Motor (kw)
		0.5cm	1cm	
650R	40	30	25	75
900R	80	65	55	150
1100R	120	100	90	220

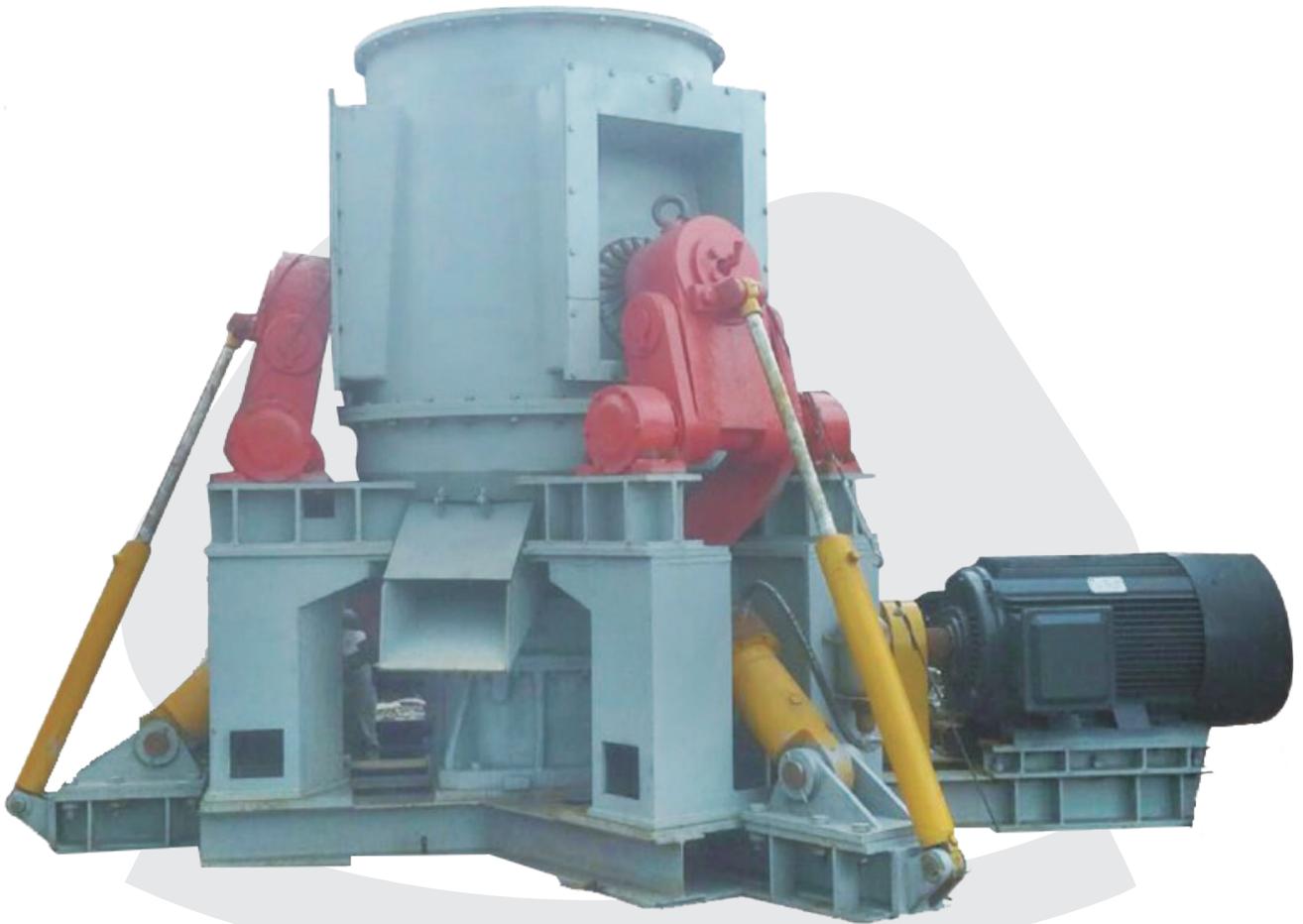
## Comparison

	<b>Vertical Sand Mill</b>	<b>Ordinary Cone Crusher</b>
Working Principle	Grinding the materials by the spinning roller and disc, and the particles are grinding with each other	Rotates the materials with high velocity and forces it to breaks down by the impact within the cone
Structure	Exclusive and simplified design. Easy installation and maintenance	Normal cone design. (Rod mill, roller mill, vertical mill)
Sizing	Adjustable from 0.075- 4.75 mm	Sizing by the gap adjustment
Dust / Lost	200 mesh below 0.075mm; lose is less than 3%	Higher dust and loss; about 15%
Productivity	About another 15% of productivity can be added by increasing the cycle of the disc	Fix
Parts wear	Long life cycle. The parts are wear off about 7 g per 1 ton of the finished product	Short life cycle. The parts are wear off about 28 g per 1 ton of the finished product
Maintenance	The parts are high endurance metal. Reducing about 50% of the cost	High maintenance cost
Shape	The products are round; similar to the natural sand	Sharp shape
Grading	Wet (Water Grading) & Dry (Wind Grading)	Steel net
Installation	The unique design makes it fast installation. (3 day installation after the foundation is built)	Long installation
Space	About 50~70% of the ball mill	Large space is needed
Vibration	Low, the roller and the disc doesn't collide with each other	High, the impact within the cone causing huge force
Noise	Low, about 70 decibel	High, about 110 decibel and up
Processing Materials with water	High, can process the materials that contain more than 8% of water	Low, can only process the materials that contain less than 8% of water
Energy Consumption	300 HP (Main motor) Production rate is 150 t/h The production rate is increased by 40%	300 HP (Main motor) Production rate is 90 t/h

\*The data are subject to the quality of the raw materials input. On site production as a reference.



## 650R New Vertical Sand Mill

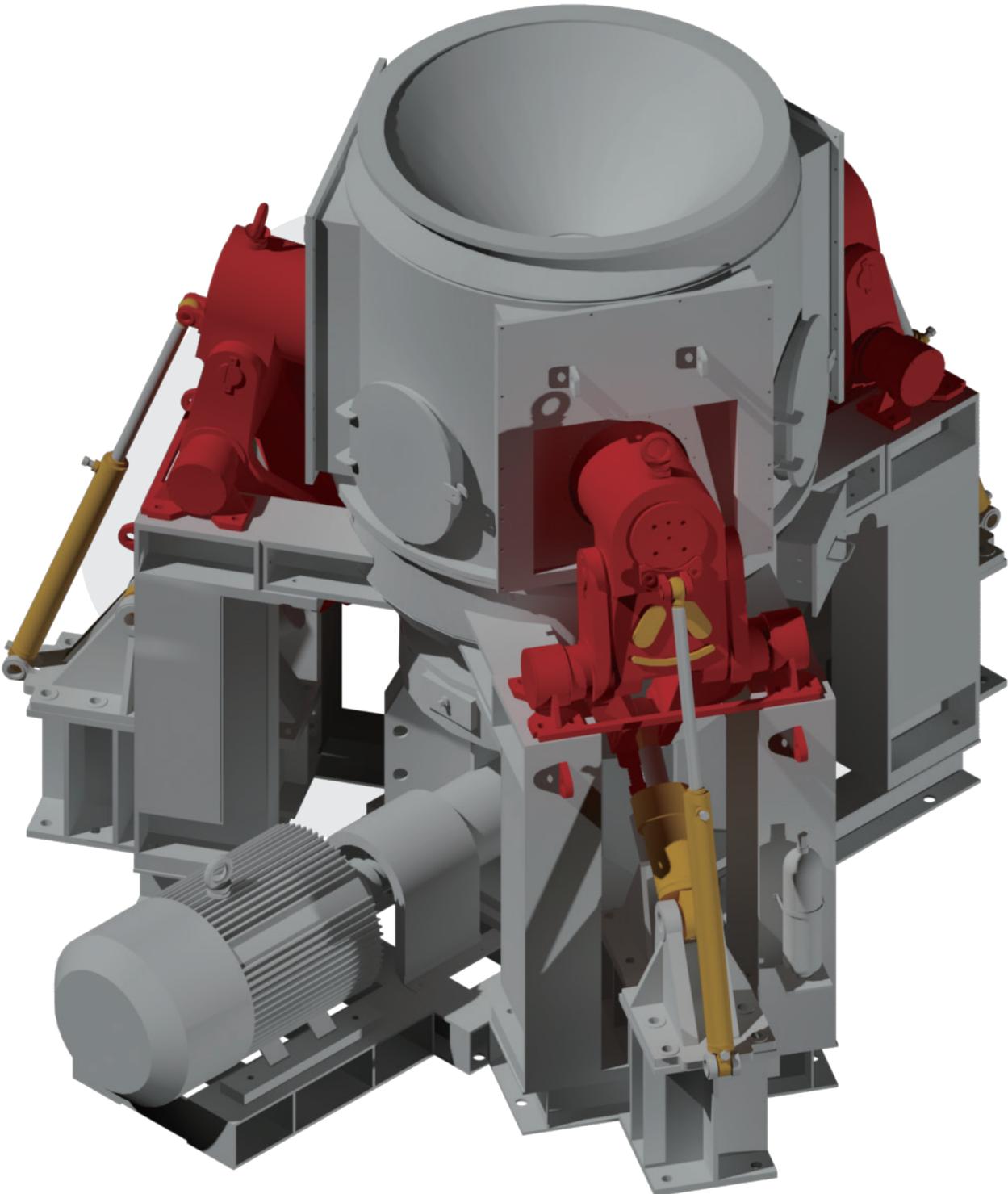


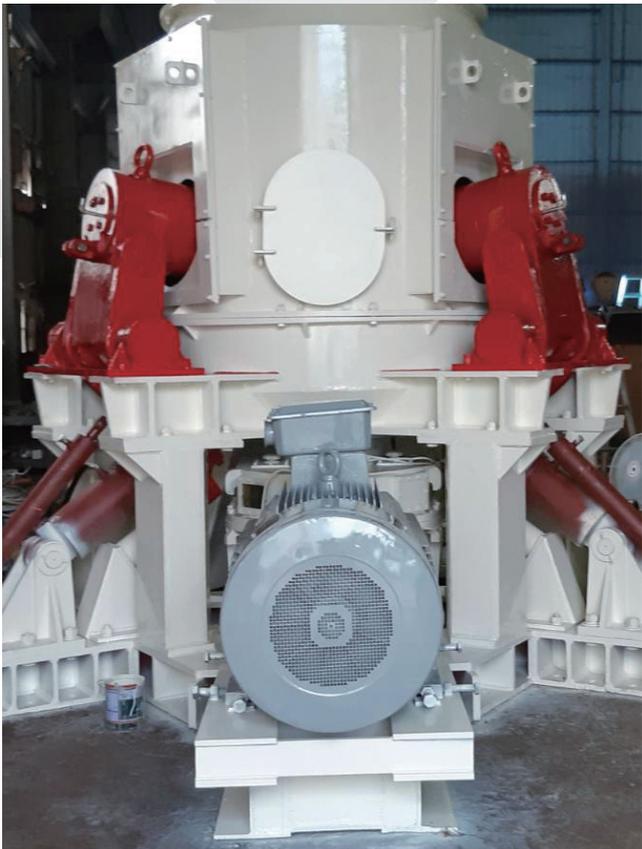
Capacity of New Vertical Sand Mill

Model	Capacity(t/h)	Production (t/h) When Input Size Is:		Motor (kw)
		0.5cm	1cm	
650R	40	30	25	75
900R	80	65	55	150
1100R	120	100	90	220

# Vertical Sand Mill

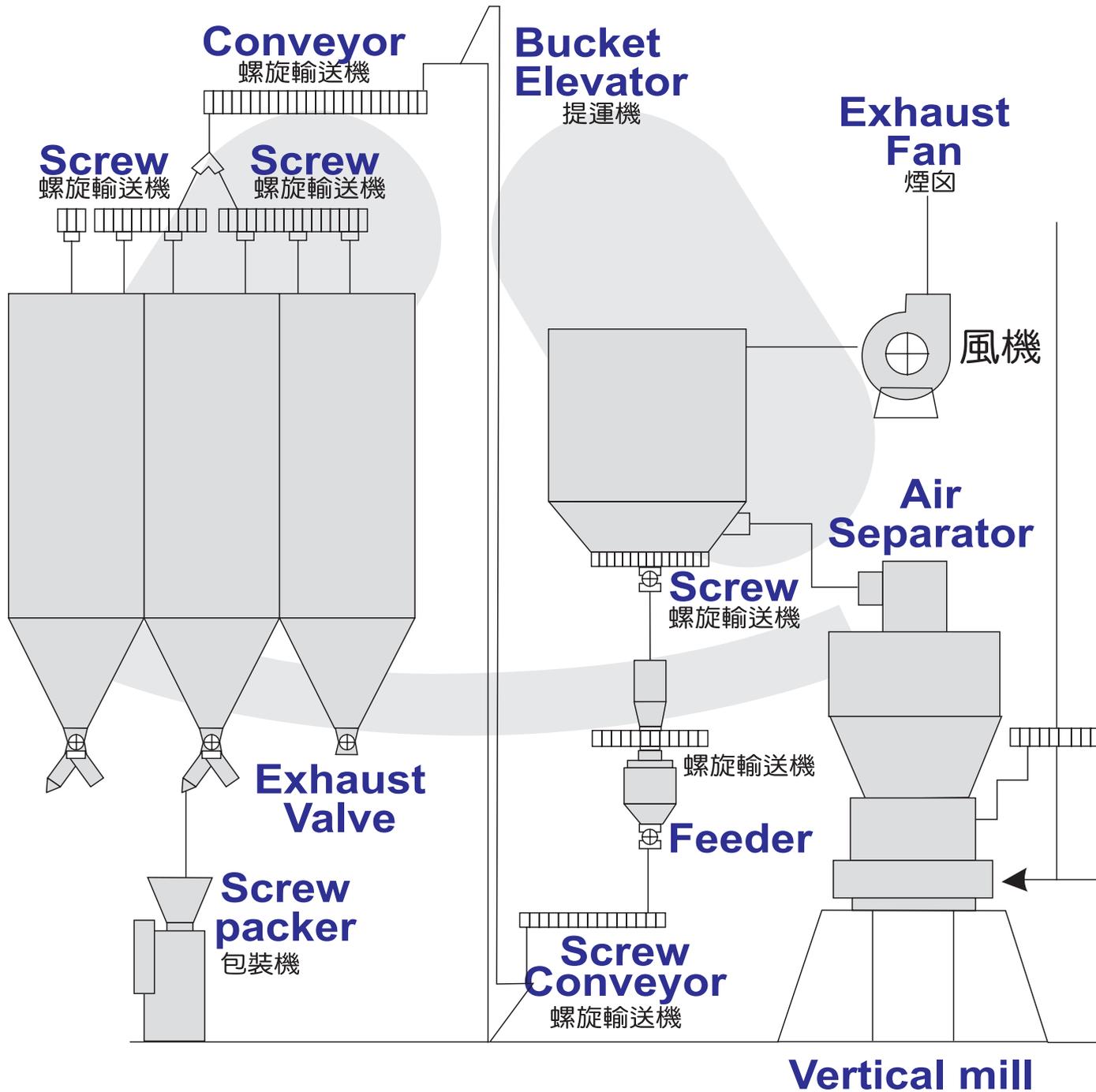
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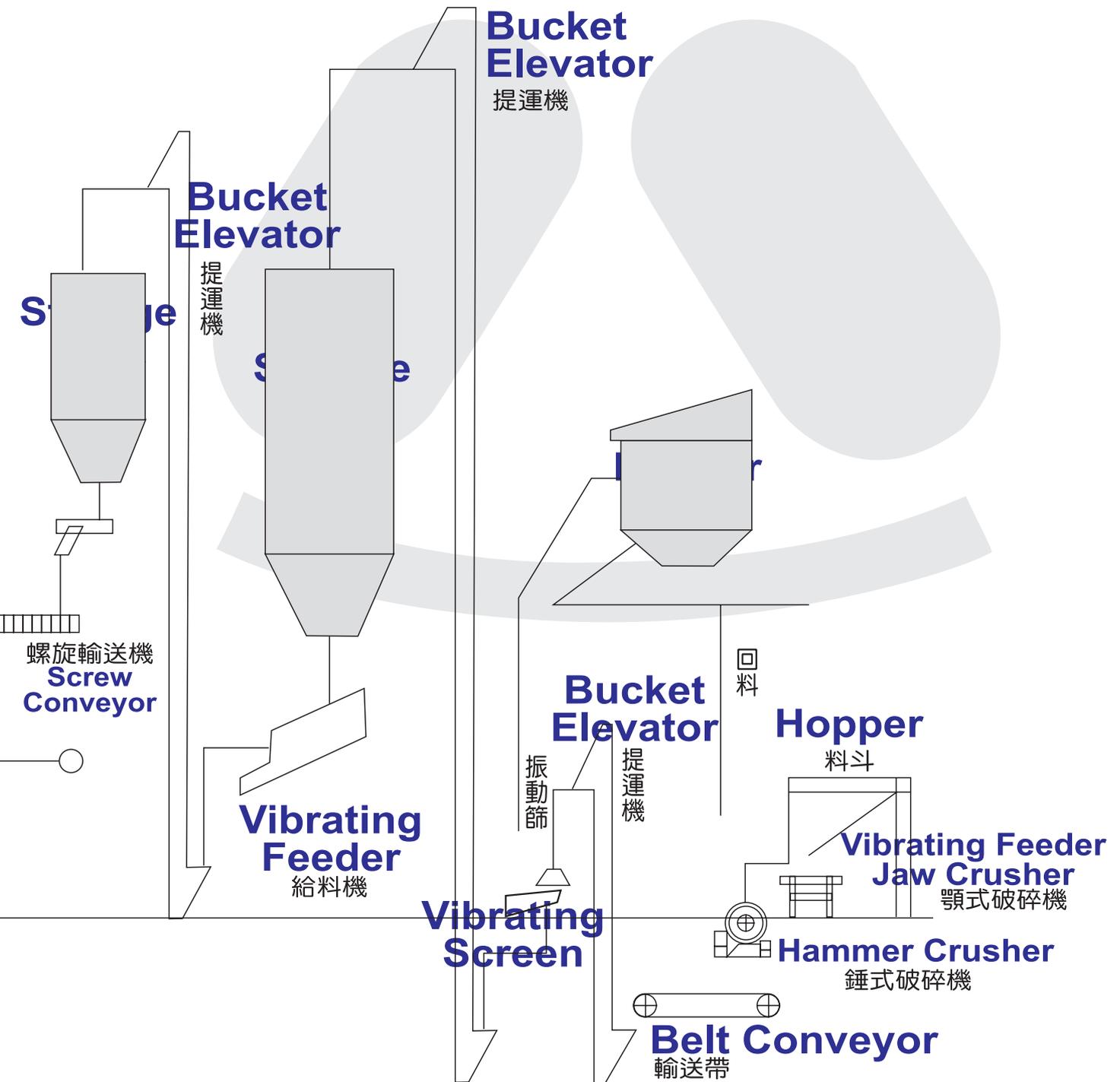




# Capability carbonate Process Capability Chart

## 碳酸鈣製造流程圖





# (CaCO<sub>3</sub>) Quality Physical

品名 Products			
		CA-23000	CA-20000
測定項目 Teating Items			
紙袋包裝淨重 Net Weight	kg	25	25
比表面積 Surface (Before Coating)	cm <sup>2</sup> /g	23000±500	20000±500
平均粒徑 AVE. Particle Size (Before Coating)	micron (um)	1.50	2.00
325Mesh殘餘量 Residue on 325 Mesh	%	0	0
粒徑分佈 Particle Diameter 單位： Micron (um)  通過累積重量 (%)	1	37	30
	2	60	50
	3	73	59
	4	81	6/
	5	88	74
	6	92	80
	8	97	89
	10	99	94
	12	100	97
	18		100
	25		
	37		
	42		
	44 (325目)		
真比重 True Specific Gravity	噸/m <sup>3</sup>	2.7	2.7
假比重 Bulk Density Tapped		0.72	0.85
白度 Whiteness		97	97
水份 Moisture	%	0.4以下	0.4以下
PH值 PH Value		9±0.5	9±0.5
燒失量 Loss Ignition	%	43.4	43.4
SiO <sub>2</sub> 含量 SIO <sub>2</sub> Quantity	%	0.2以下	0.2以下
Fe含量 Fe Quantity	%	0.02以下	0.02以下
CaCO <sub>3</sub> 含量 CaCo <sub>3</sub> Quantity	%	98以上	98以上
沉降體積 Sediment Volume	1小時後(C. C)	50	42
吸油量 Oil absorption Value	C. C/100g	33	33
吸水量 Water absorption Value	C. C/g	0.56	0.56
DOP吸收量 DOP absorption Value	C. C/100g	57	57



# Chemistry Laboratory text table

## CA系列

CA-18000	CA-16000	CA-12000	CA-7000	CA-6000
25	25	25	25	25
18 000±500	16000±500	12000±500	7000±500	6000±500
3.00	4.50	6.50	12.50	15.00
0	0.01	0.05	0.1	1
25	23	16	9	8
42	35	24	14	12
50	41	28	18	16
57	47	33	21	19
62	52	39	25	23
67	58	45	28	26
76	68	57	34	32
83	76	67	41	38
88	82	76	47	44
96	92	90	66	63
100	97	96	82	79
	99.50	99	97	95
	99.90	99.80	99	98
	99.99	99.95	99.90	99
2.7	2.7	2.7	2.7	2.7
0.90	1.05	1.20	1.40	1.47
96	96	95	94	93
0.4以下	0.4以下	0.4以下	0.5以下	0.5以下
9±0.5	9±0.5	9±0.5	9±0.5	9±0.5
43.4	43.4	43.4	43.4	43.4
0.2以下	0.2以下	0.2以下	0.2以下	0.2以下
0.02 以下	0.02以下	0.02以下	0.02以下	0.02以下
98以上	98以上	98以上	98以上	98以上
32	28	21	16	14
31	29	25	24	22
0.51	0.49	0.43	0.40	0.37
53	50	41	39	36

## (CaCO<sub>3</sub>) Composition Analysis

### 碳酸鈣成份分析表

灼熱減量	Loss Ignition	43.50%
氧化鈣	CaO	55.00%
三氧化二鐵	Fe <sub>2</sub> O <sub>3</sub>	0.02%
二氧化矽	SiO <sub>2</sub>	0.20%
氧化鎂	MgO	0.16%
三氧化二鋁	Al <sub>2</sub> O <sub>3</sub>	0.20%
水份	moisture	0.16%
鹽酸不溶物	Hydrochloriide Acid Insolublc matter	0.20%

## Micron-Mesh Conversion Table

### 微米與目數之對照表

micron(um)	mesh(目)	micron(um)	mesh(目)
1	12,700	35	400
1.3	10,000	44	325
1.6	8,000	46	300
2.6	5,000	53	270
6.5	2,000	61	250
10	1,340	63	240
13	1,000	65	230
18	800	74	200
23	600	104	150
28	500	140	100

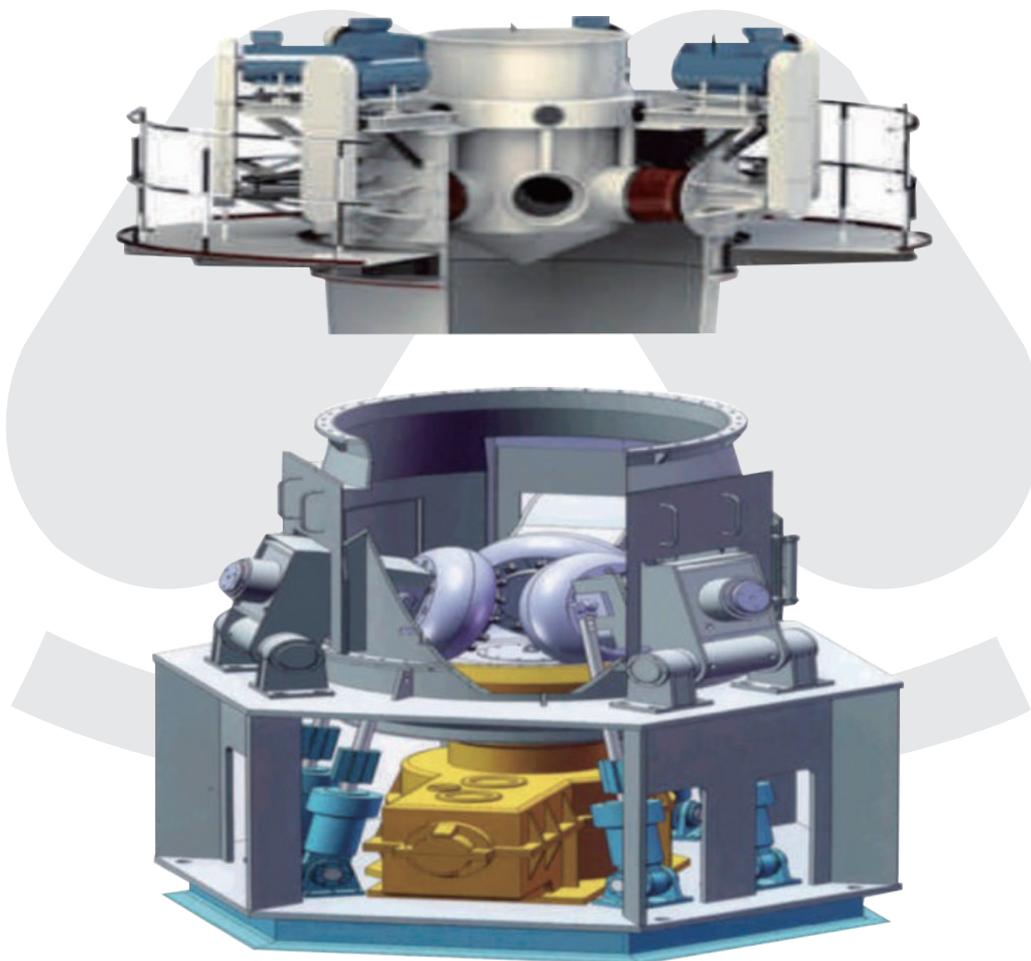


## Vertical Roller Mill

### Brief Introduction

Vertical roller mill has higher production, quality, and lower energy consumption compare with other model on the market. Also, it is more durable and powerful for grinding the raw materials to smaller size. It is the best grinding equipment on the market.

### 900R Vertical Roller Mill



### Technical Parameter

Surface Area (cm <sup>2</sup> /g)	Avg. Particle Size		2um (%)	Productivity (t/h)	Consumption (kw/t)
	um	All Pass			
18000±1000	1.76	24	50	3	128
12000±1000	4.2	56	35	6.5	55

\*The data are subject to the quality of the raw materials input. Use on site production as reference.

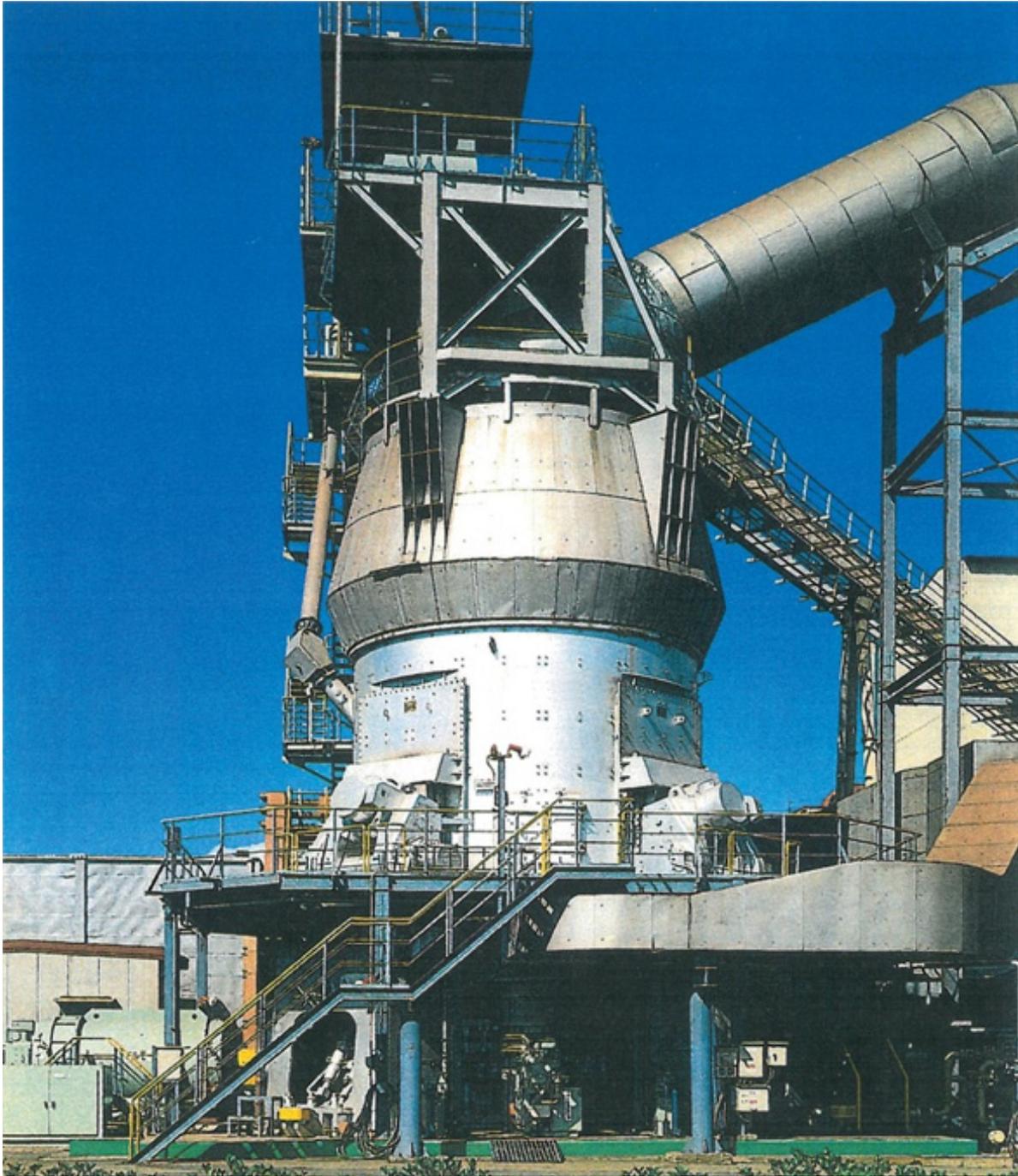
## 650R Vertical Roller Mills



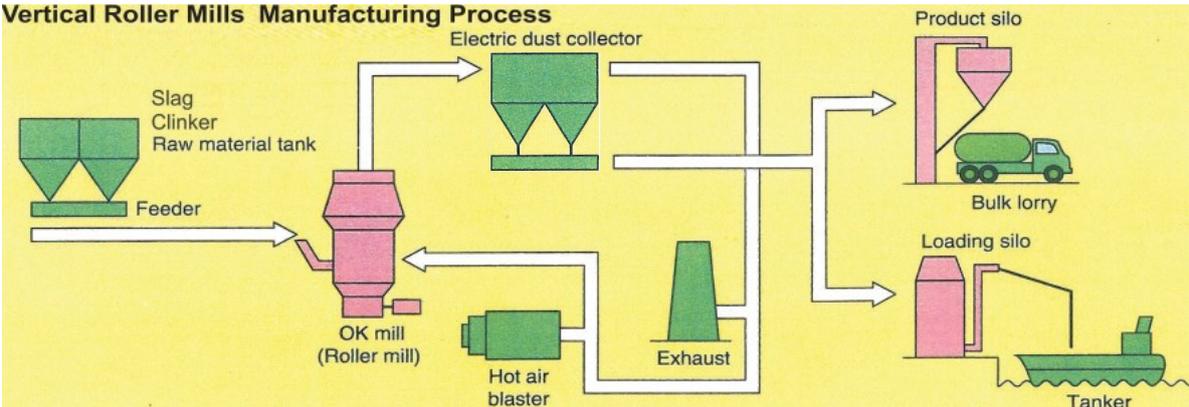
### Technical Parameter

Surface Area (cm <sup>2</sup> /g)	Avg. Particle Size		2um (%)	Productivity (t/h)	Consumption (kw/t)
	um	All Pass			
18000±1000	1.76	24	50	3	128
12000±1000	4.2	56	35	6.5	55

\*The data are subject to the quality of the raw materials input. Use on site production as reference.



### Vertical Roller Mills



# MLX Series Vertical Grinder Reducer

- ◆ Widely used in such industries as building materials, electrical power and metallurgy.
- ◆ Structure: use bevel gear + planet gear direct driving, bevel gear + gear + planet gear direct driving, bevel gear + gear + new planet gear direct driving, gear + bevel gear + gear + planet gear direct driving, bevel gear + planet gear + planet gear direct driving, reducer and grinder integrated output flange connected directly to grinding disc to transfer torque, and bear the pressure from grinding roller at the same time.
- ◆ Bevel gear pair made of Klingelnberg gear, bevel gear, gear, sun gear and planet gear all use carburizing quenching technique; in addition, gear, the sun gear and planet gear use the company's specialized gear-type flitting technique, tooth strengthen shot-blasting technique.
- ◆ Internal gear rings are grounded after being roughly processed, with a precision above grade 6 (ISO1328).
- ◆ All the gears are detected at stock stage and after heat treatment. The main welding seams on the case and Planet gear turner are ultrasonic detected. Advanced welding equipment and welding procedure are employed to guarantee high strength and high rigid of turner.
- ◆ Use kmetic and static pressure, static pressure lubrication system, safe and reliable.

## Technical characteristics

- ◆ Service life of all the rolling bearings is over 80000h.
- ◆ Lube oil brand: N220~320 (GB/T5903-1995)
- ◆ This series of reducers has the characteristics of being compact, light, high efficiency, low noise, stable operation and long service life, etc.
- ◆ Simple in structure, safe and reliable in operation and convenient for installation and maintenance.
- ◆ The main technical indexes of this series of reducers reach the most advanced level for the products of its kind at home and abroad at present.

## Notes for selection

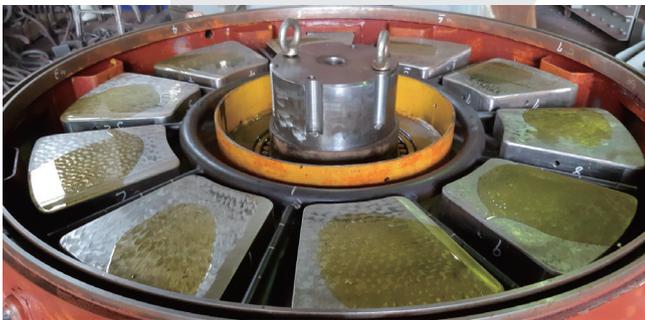
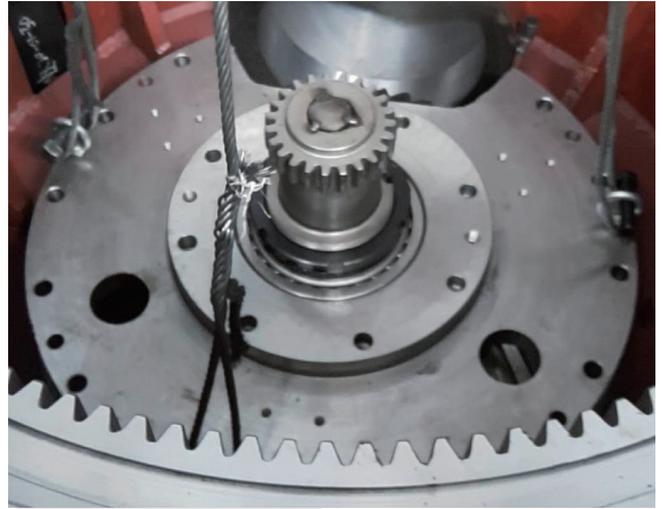
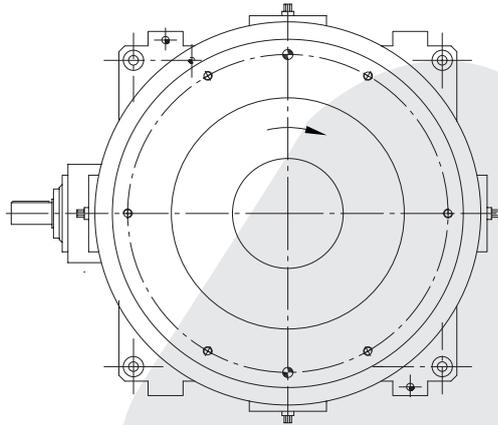
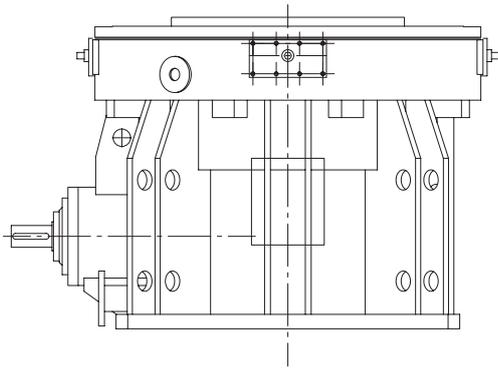
- ◆ P - Motor power (KW),  $n_2$  - Grinding disc rotating speed (r/min),  $P/n_2$  of the selected reducer must be  $\leq P/n_2$  permitted in the catalogue.
- ◆ "Table of main technical performance of series MLX reducers" was prepared according to working condition coefficient  $K_A=2.5$ , the working condition coefficient will vary as the working condition may vary, P has multiply coefficient  $\Psi$  when selected.  
E.g : when  $K_A=2.5$ ,  $P/n_2$  of the selected reducer must be  $\leq P/n_2$  permitted in the catalogue.  
when  $K_A \neq 2.5$ ,  $\Psi \times P/n_2$  of the selected reducer must be  $\leq P/n_2$  permitted in the catalogue.

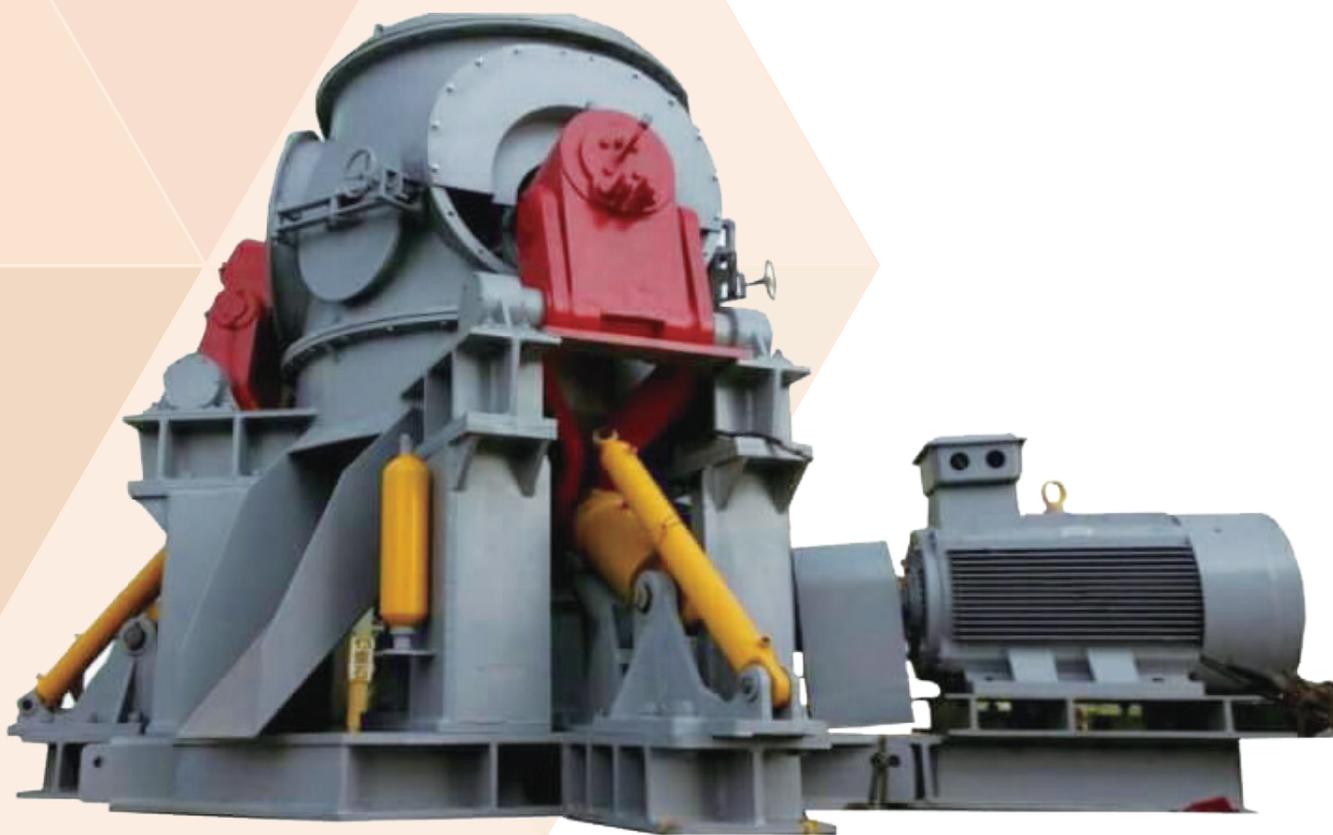
# Vertical Grinder Reducer

WONDERFUL CONSULTING FIRM CO., LTD.



NORtheast INTERNATIONAL MACHINERY CO., LTD.





**WCF** 圓海機械工程有限公司  
WONDERFUL CONSULTING FIRM CO., LTD.  
**NEI** 東北國際機械有限公司  
NORTHEAST INTERNATIONAL MACHINERY CO.,LTD.

工廠地址：桃園市龜山區大坑路一段915-2號

Factory Address: No.915-2, Sec. 1, Dakeng Rd., Guishan Dist., Taoyuan City, Taiwan

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