

# Vertical Shaft Impact Crusher



**SHANGHAI KINGLINK INDUSTRY CO.,LTD**





## VSI Crusher – the proven producer

The Kinglink KL-Series Vertical Shaft Impact (VSI) crusher has had a huge impact on the global quarrying and minerals processing industries.

The Kinglink KL-Series VSI is unique due to its crushing process. Whereas most other types of crusher use metallic parts to crush rock, the Kinglink VSI uses the rock fed into the machine to crush itself. This autogenous crushing process produces the best-shaped aggregate on the market today.

The high velocity impact crushing achieved in a Kinglink KL-Series VSI improves the soundness and shape of stone, reducing product moisture and easing the screening task while producing superior products at a minimum cost.

### **Unmatched performance**

With thousands of units operating in aggregate and mineral processing installations around the world Kinglink

KL-Series VSI, with their rock-on-rock crushing action, have an established track record of cost savings, durability and unmatched performance in the variety of tasks to which they have been applied. These include the production of quality aggregates, sand, material for heap leaching, pre-grinding and finished industrial minerals products.

### **Lowest total cost**

Many benefits of the Kinglink KL-Series VSI are the result of designers listening to customers. This has led to the development of a user-friendly VSI which gives the lowest possible total cost per tonne by improving energy efficiency, reducing wear rates, lengthening intervals between servicing, reducing the time required to perform service tasks, as well as improving crushing performance and control.

### **Adaptable and versatile**

The Kinglink KL-Series VSI is an excellent third or fourth stage reduction unit and has demonstrated a unique ability to operate in many demanding and diverse crushing operations in construction, industrial minerals, metallic minerals and waste and recycling applications. This is possible because of the unique free impact crushing and grinding action and the ability to fine tune this process by simply changing rotor speed or cascade ratio.

Coupled with lower wear costs, the result has seen the Kinglink KL-Series VSI find applications not only in traditional quarry and mining plants, but also in a range of industrial mineral and specialist crushing operations.



The Kinglink KL-Series VSI's roof lifter allows easy access for servicing the machine, ensuring minimal downtime.



The Kinglink KL-Series VSI is designed with ease of installation in mind.

## Your competitive advantage

The complete range of Kinglink KL-Series VSI crushers incorporate rock-on-rock crushing technology that has revolutionised the aggregates and minerals industries worldwide.

The rock-on-rock Kinglink KL-Series VSI offers the modern operator product grading control by optimising numerous variables:

- Variation of rotor speed.
- Choice of crushing chamber cavity rings.
- Adjustment of cascade feed ratio.
- Selection of different diameter rotors.

Designed for low service requirements and ease of operation, the Kinglink KL-Series VSI will readily fit into any existing or proposed crushing plant.

### Kinglink KL-Series VSI features

- Accepts sticky feeds.
- Accepts all in feeds.
- Competitive capital cost, especially when compared with conventional crushing equipment.
- Low service and maintenance requirements along with minimum operating and wear costs.

- Rock-on-rock technology minimises wear part requirements.
- Quick and easy installation. Crushers require minimum support structure and are also ideal as mobile units.
- Ability to control product grading, maximising or minimising fines production.
- Produces a product of superior cubical shape.
- Superior mineral liberation and increased recovery rates.
- Preferential crushing action.
- Integrated monitoring, safety and control systems.
- More tolerant than conventional crushers to difficult feed conditions.
- Simple, reliable grease lubrication.
- Range of models available to suit any capacity in tertiary or quaternary applications.

### The User-Friendly VSI crusher

The Kinglink KL-Series VSI is designed with ease of installation in mind. Assembly, installation and commissioning can be achieved by two people in 2-3 days. Foundation requirements are minimal due

to the light weight of the machine and the minimal dynamic forces when in operation. Existing support work can be used or a support structure can be supplied.

The Kinglink KL-Series VSI provides higher capacity for a given motor size, easier servicing and reduced operating costs. Benefits have been achieved by an improved machine design, including a new hopper configuration, radical crushing chamber variations and the development of new rotor technology. Service time is drastically reduced with complete access to all rotor parts, simplifying wear part replacement procedures.

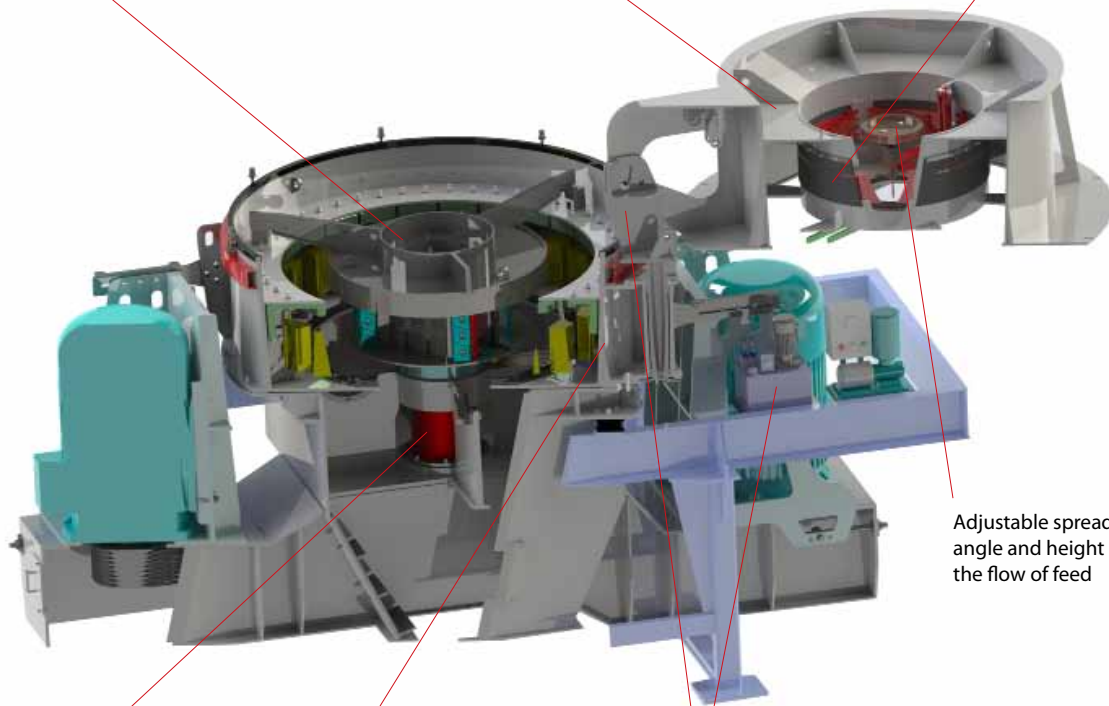
The roof lifter has been developed to provide quick and easy access to the internal workings of the Kinglink KL-Series VSI. This allows for rapid rotor and wear part changes and minimises down time while maximising availability. The simple and reliable design of the roof lifter means only one person is required for operation and can eliminate the requirement for an external crane.



Simple feed tube replacement with automatic realignment after crusher servicing and rotor replacement

Large feed hopper gives room for staff to work in when servicing the crusher

Adjustable cascade ports allow operator to control cascade flow



Robust sealed shaft line assembly ensures longer bearing cartridge life

Quick access through inspection and service door allows insitu parts replacement

Roof lifter gives rapid access to the inside of the crusher meaning minimum time is required to carry out servicing and maintenance tasks

Adjustable spreader plate angle and height controls the flow of feed

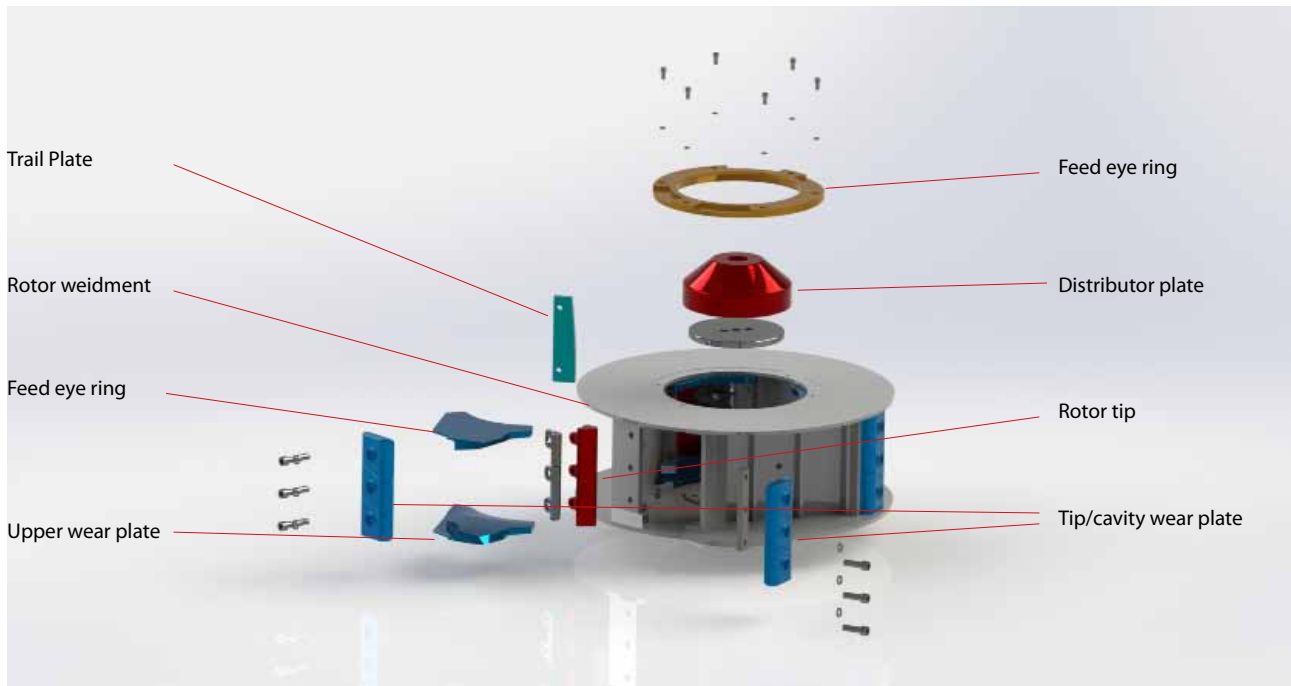
Kinglink KL-Series Vertical Shaft Impact Crusher offers the modern operating product grading control by optimising numerous variables:

- Variation of rotor speed.
- Choice of crushing chamber cavity rings.
- Adjustment of cascade feed ratio.
- Selection of different diameter rotors.

Designed for low service requirements and easy of operation, the Kinglink KL-Series Vertical Shaft Impact Crusher will readily fit into any existing or proposed crushing plant.

**The cascade feed system provides:**

- Higher crusher output for the same power consumption.
- Maximum use of available power without fear of motor overload.
- Gradation control to optimise product fractions.
- 'Free' crushing at no extra expense on the operator.
- Shape control.



## The heart of the KL-Series VSI

The success of the KL-Series VSI is centred around its rotor.

In simple terms, crusher operators wish to reduce their running costs while still making the product they need. This means reducing downtime, wear part usage and power consumption while still maintaining product gradation. The KL-Series VSI DTR deep rotor is the ideal tool for achieving this because it has been developed specifically to increase throughputs and reduce wear costs.

The development of deep rotor technology, combined with long life wear parts and segmented tip assemblies, dramatically reduces down time associated with wear part replacement.

### Real advantages for the operator

Extensive testing worldwide has shown that deep rotor technology has increased product throughput, in some cases by up to 30%. It has also led to a reduction in downtime,

service labour costs and wear costs. These lead to very real monetary advantages.

In addition, the capability to handle coarse feed fractions has been improved. Reduced energy consumption can be experienced with potential savings of up to 20%, making the crusher more energy efficient. So why waste your energy wearing out parts when you could be using it to crush rock?

### Why go deep?

The KL-Series DTR rotor is designed with serviceability and optimal rotor and wear part life in mind. Power consumption and rotor wear are both reduced by creating more room for material to enter and pass through the rotor.

Since running an AC motor at less than full load current is inefficient we can make the most of this power saving in three ways:

- Increase rotor throughput – leads to gains in product quantity

- Increase rotor speed – leads to increased product quality.
- Install a smaller motor – provides gains in power saving. This will give the operator:
- Lower wear costs per tonne. In some cases average wear part lives have increased by 50%. This means less maintenance time and higher crusher availability.
- Lower power consumption/draw per tonne.
- Higher throughput for a given power consumption.
- Lower power consumption for a given throughput.
- Higher capacity. A denser particle population in the chamber will give more effective reduction and improved shape.
- Improved flowability due to the higher clearance height within the rotor, especially with coarse feeds.



The Kinglink KL-Series Vertical Shaft Impact Crusher can produce high volumes of cubically shaped product.



Superior particle shape and consistent gradation are a direct result of the The Kinglink KL-Series Vertical Shaft Impact Crusher .



The Kinglink KL-Series Vertical Shaft Impact Crusher could produce high quality aggregate and supply dry mortar and concrete mixing station.



The Kinglink KL-Series Vertical Shaft Impact Crusher can crushed metallurgical slag, which achieve slag recycling.

## Application areas

### Aggregates and sand

The quarry industry has been the traditional home of the KL-Series VSI. Kinglink KL-Series VSI have consistently demonstrated their ability to produce high quality cubical shaped aggregates that meet all major construction specifications. Kinglink KL-Series VSI are particularly successful in producing roadbase, top dressing chip, concrete and asphalt aggregates, and manufactured sand.

In these applications, Kinglink KL-Series VSI can be operated either in open or closed circuit, depending on the types of aggregates and the specifications required.

### Industrial minerals

With features such as controlled product grading, preferential crushing, low production costs and the ability to produce finely graded products, the addition of a Kinglink KL-Series VSI can optimise the performance of most industrial mineral processing installations

In this sector, Kinglink KL-Series VSI are very popular as cost-effective fine crushing equipment for the abrasive industry.

Diamond mines are another sector that is becoming increasingly associated with the Kinglink KL-Series VSI, which is looked upon as effective equipment for liberating diamonds from gangue minerals. Fine crushing cement clinker is fast becoming the Kinglink KL-Series VSI's forte with its proven ability as a cost-effective pre-grinder.

### Mining

In mining (metallic minerals), the Kinglink KL-Series VSI, with its high capacity and ability to produce finely graded products such as mill feed, sinter feed or material for heap leach operations, is an ideal machine to replace high cost, inefficient crushing and milling equipment.

The addition of a Kinglink KL-Series VSI to an existing circuit can save considerable capital

funds when increased production is required from an existing milling circuit.

### Waste recycling

Waste recycling is not only environmentally responsible, it is also economically viable. As the areas of recycling continue to increase and the global community moves closer towards higher environmental consciousness, the Kinglink KL-Series VSI is establishing market areas where it can outperform other methods of recycling recovery efficiency.

Recycled materials not only take the form of mineral aggregates for the construction industry, but also glass, slags and other waste products that can be processed and profitably sold. The Kinglink KL-Series VSI provides the perfect means of treating these materials. The versatility of the Kinglink KL-Series VSI allows it to be used to great effect in many applications.



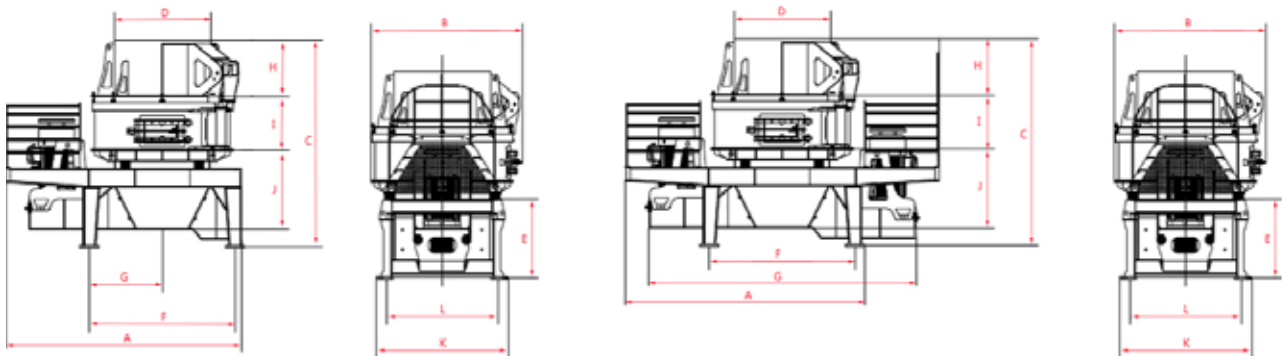


# 6 CAPACITY CHART

Model	Max.Feeding		Rotation Speed (r/min)	Power		Capacity		Weight	
	inch	mm		hp	kW	lt/h	t/h	lt	t
KL-5	1.18	30	2258-2600	40-60	30-45	29-59	30-60	4.70	4.78
KL-7	1.37	35	1775-2050	74-147	55-110	54-119	55-120	7.38	7.50
KL-8	1.96	50	1460-1720	200-354	150-264	111-236	113-240	11.50	11.68
KL-10	2.36	60	1242-1460	429-670	320-500	216-492	220-500	16.92	17.20
KL-12	2.36	60	1000-1350	670-844	500-630	295-688	300-700	19.83	20.15

Remarks:1)The above capacity is based on the rock with bulk density 1.6t/m<sup>3</sup>.  
 2)The above capacity will change according to feed size, graduation of feed material,water content and rock type.

## CLEARANCE DIMENSIONS

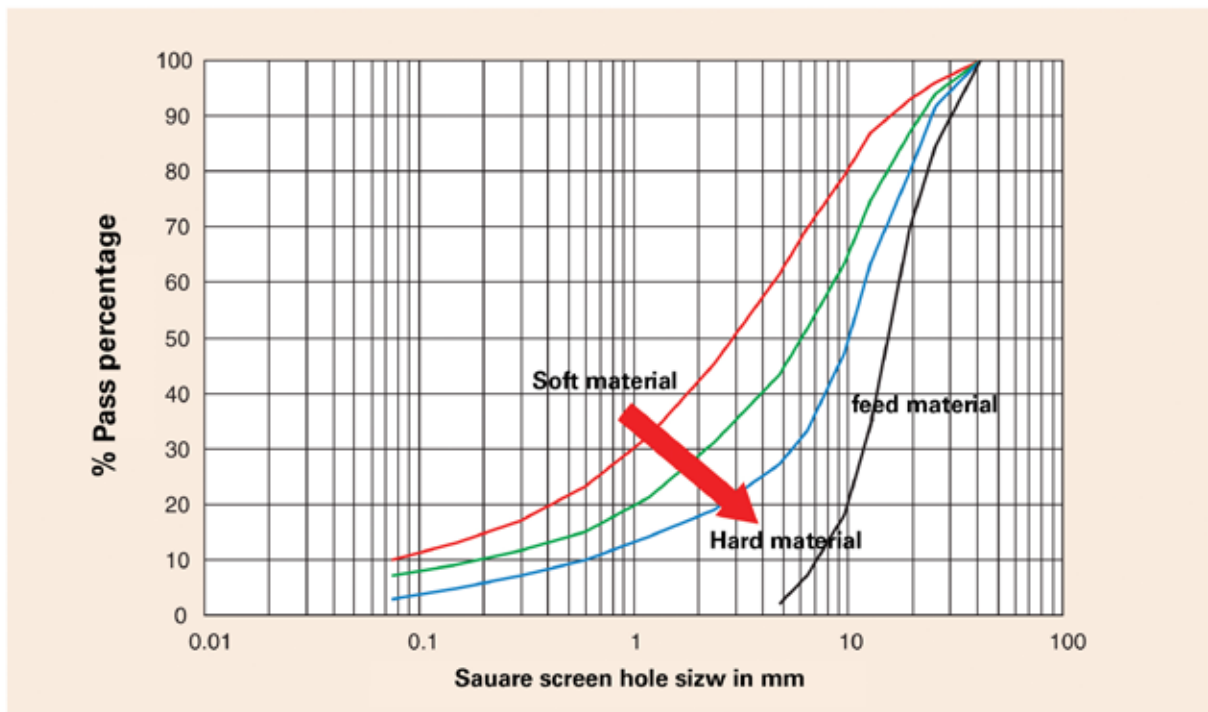


Model \ Dimensions (mm)	A	B	C	D	E	F	G	H	I	J	K	L
KL-5	2510	1690	2130	1000	760	1780	1080	530	615	860	1260	850
KL-7	3380	2143	2127	1320	990	2020	1005	747	710	1052	1680	1610
KL-8	4678	2331	2882	1510	1125	2480	4165	755	740	1060	1910	1790
KL-10	5530	2660	3310	1700	1260	2570	4700	900	860	1252	2320	2240
KL-12	5570	2660	3330	1775	1410	2900	5025	900	860	1483	2400	2000

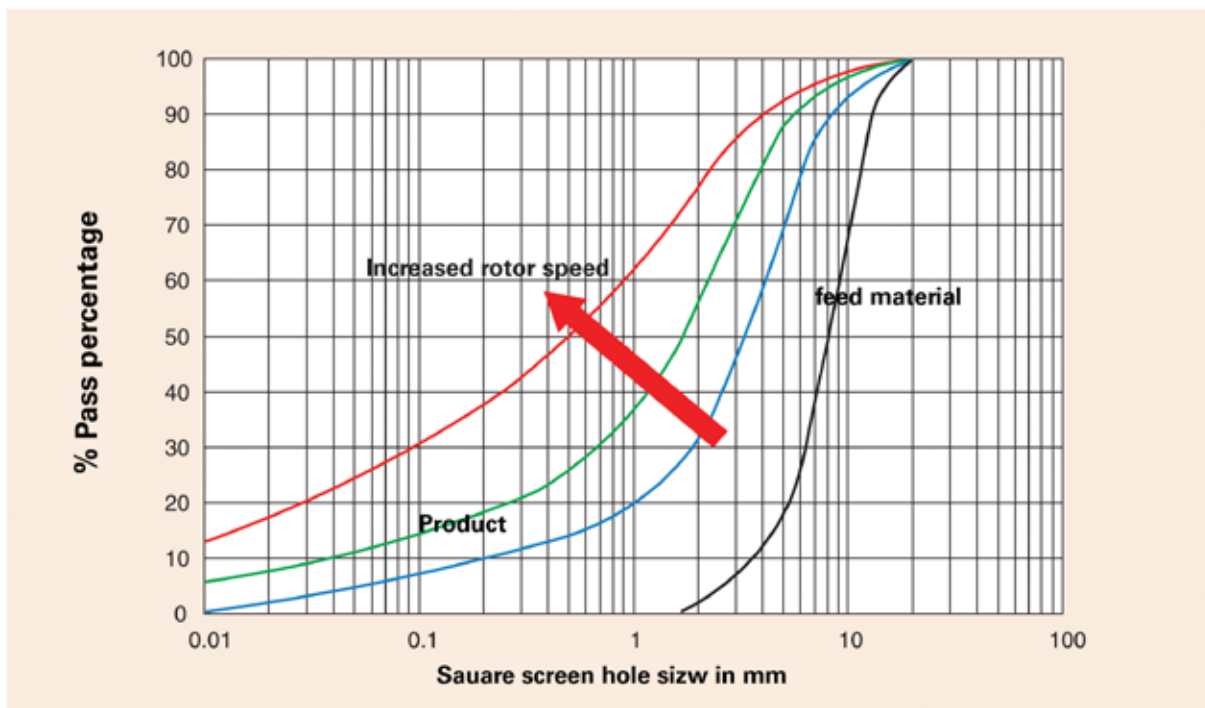
\_All dimensions are for reference only and are not to be used for construction.



Changes in hardness material



Changes in rotor speed







# WORLD-CLASS SERVICE AND SUPPORT

- Strive for a 2 hour response time from service agents.
- Commitment to getting crusher operating as expected.
- Investment in smart, hard-working and industry experienced service team.
- Direct line to technical support group, 24-hours a day at [+86-15601968455](tel:+86-15601968455)



## QUICK DELIVERED PARTS

- Large inventory increases parts availability and reduces wait time.
- Centrally-located warehouse for quick deliveries.
- Critical third party parts are inspected for integrity.
- High quality factory parts are backed by fitup assurance.
- 1-Year Parts Warranty:
  - ↳ Covers new parts against defects in material or workmanship.
  - ↳ Excludes normal wear and tear.





NOTE: SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE

Because Kinglink may use in its catalog & literature, field photographs of its products which may have been modified by the owners, products furnished by Kinglink may not necessarily be as illustrated therein. Also continuous design progress makes it necessary that specifications be subject to change without notice. All sales of the products of Kinglink are subject to the provisions of its standard warranty.

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