

V series Vertical Shaft Impactor
CMC 系列立式衝碎機 (VSI)

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啓銘機械股份有限公司
CHYI MEANG MACHINERY CO., LTD.

啓銘V系列立式衝碎機(VSI)

革命性的新產品，讓您在細料破碎的產能效益上始終保持領先

CMC V Series Vertical Shaft Impactor

Revolutionary new product for your always leading edge in fine material crushing productivity

啓銘機械作為引領破碎篩分行業技術的領導者，以自1969年累積至今的技術與經驗所開發出之新一代V系列立式衝碎機(VSI)，是您細料破碎的最佳選擇。

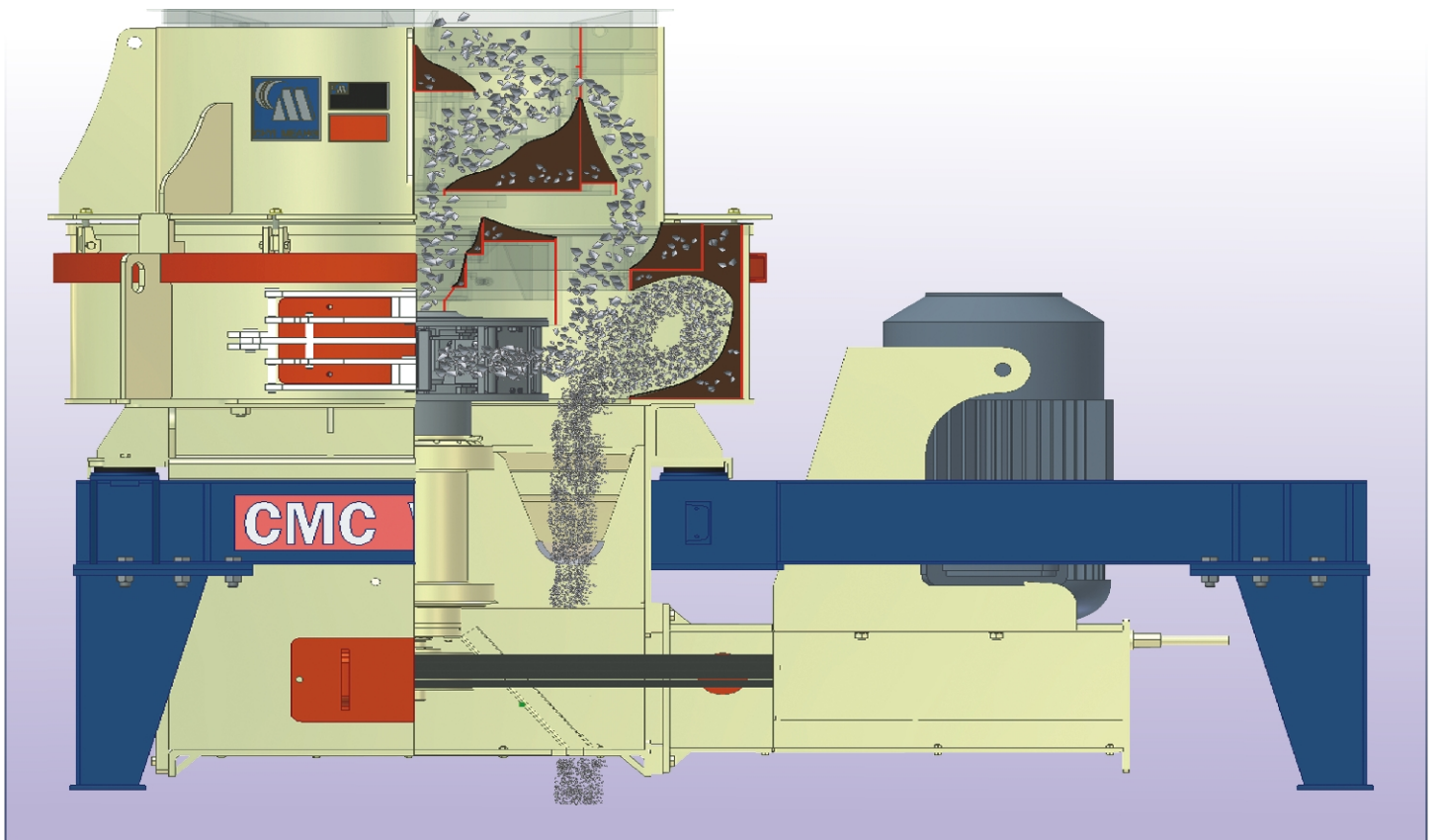
歷經三個世代(IB/SIC/V)研究測試與改進，啓銘V系列立式衝碎機(VSI)，大幅提昇細料破之產量與品質，並將生產總成本降到最低，遙遙領先同業，長期以來廣為世界各地業者採用。自2002正式上市至今，全球已有超過150台啓銘V系列立式衝碎機(VSI)持續運轉中，並不斷為業主創造更大之利潤。

從實際運轉中證明，啓銘V系列立式衝碎機(VSI)，以精簡的整體設計，方便的安裝操作，及簡便的維護保養，提供最大的穩定度和靈活性，無論在固定式或移動式設備上，皆可順暢運行，且大幅降低周邊配套設施

CMC, leads crushing and screen technology in Taiwan and develops new generation V series vertical shaft impactor (VSI) through the technology and experience since 1969. It is the perfect choice of your fine material crushing.

Through three generations (IB/SIC/V) development, field test and improvement, CMC V series vertical shaft impactor (VSI) increase dramatically product capacity and quality of fine material crushing; and also minimize total production cost. It leads far forward competitors and is widely used by clients all over world since long time. There are over 150 units of CMC V series vertical shaft impactor (VSI) operate continuously all over the world since launched in 2002, which create more and more profits for owners.

CMC V series vertical shaft impactors (VSI) with it's compact integrate design, easy installation, operation and maintenance, provide maximum reliability and flexibility. It operates smoothly no matter in stationary or portable plant and reduces dramatically the requirement of auxiliary facilities.



新一代獨步全球之革命性設計

New generation unique revolutionary design in the world

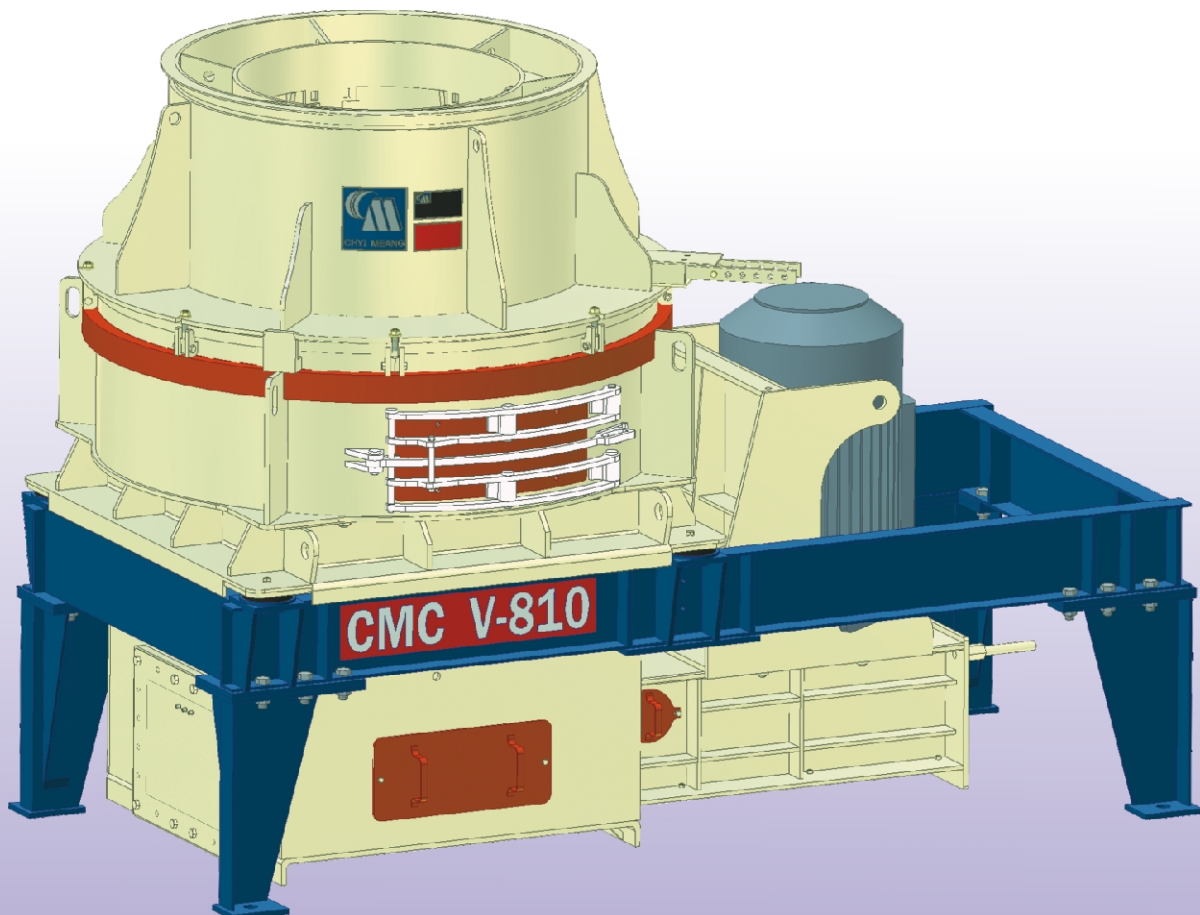
啓銘V系列立式衝碎機(VSI)，以獨步全球之多種型式金屬壁反擊子(Anvil)，形成各種獨特破碎角度，配合可變之轉子線速度，及瀑布流的多重破碎與液壓調整可變入料閘門完美結合，提供細料破碎更高之產量與更優之品質。也因此得到更廣泛的應用性，無論是碎石整型，人工機製砂，亦或是礦石細碎與棄物回收處理，皆可達到無可比擬的效益。

CMC V series vertical shaft impactors(VSI), with perfect combinations of multi types anvils which form various crushing angles, changeable rotor speed, multi-crushing action by cascade feed ratio and hydraulic adjustable feed control gate, provides higher capacity and better product quality of fine material crushing. Thus the applications are wide, no matter aggregate shaping, crushed sand, minerals fine crushing and waste recycling and can reach uncompetitive effectiveness.

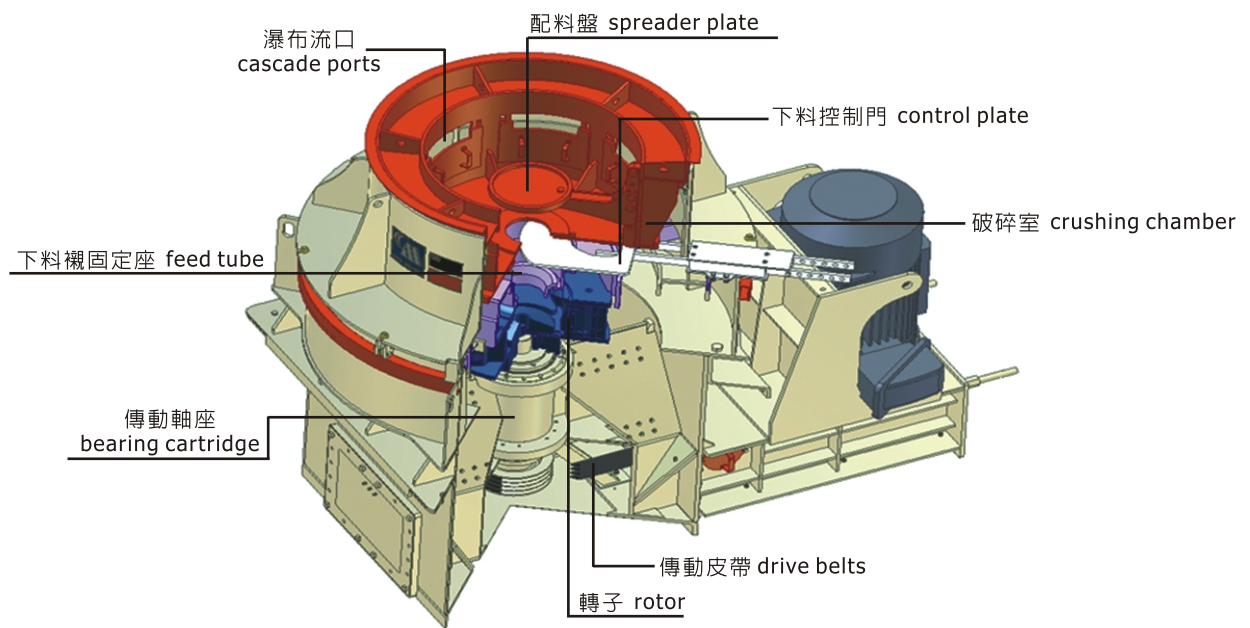
完全滿足客戶之需求 Meet customer requirement totally

在現今破碎篩分設備市場中，面對激烈的全球競爭，必需永遠堅持不間斷之研發與創新，否則必遭到市場淘汰。啓銘機械全心傾聽客戶的需求，不斷對設備進行改良與革新。經由與使用者深入溝通，啓銘機械完全掌握使用者對細碎及超細碎立式衝碎機之需求。啓銘的研發團隊將以往難以統合的性能，融合在新一代啓銘V系列立式衝碎機(VSI)上，應用領域更廣，滿足最困難的作業條件，實現更高的生產力，確保最低的生產總成與最大之投資效益。

In the highly competitive crushing and screening equipments market nowadays, without insistent Innovation and developments, it is naturally to be eliminated by market. CMC listens to customer voice and makes continuous improvement on products. CMC communicate deeply and fully realize the characteristics of fine and ultra fine crushing VSI required by clients. CMC R & D teams incorporate the above advantages which are difficult to integrate together into new generation V series vertical shaft impactors(VSI). It is wider application, satisfaction of most difficult operation conditions, higher capacity, lowest total production cost and maximum return on investment.



啓銘V系列立式衝碎機(VSI)主要部件 Main components



啓銘V系列立式衝碎機(VSI)之優點 Advantages of CMC V series vertical shaft impactor(VSI)

啓銘V系列立式衝碎機(VSI)採用高速多角度多層次破碎，在細料破碎上取得革命性成就。
CMC V series vertical shaft impactor(VSI) applies high speed multi angle crushing and gains revolutionary achievement in fine material crushing.

可適用於各種不同需求: Fit for various requirements:

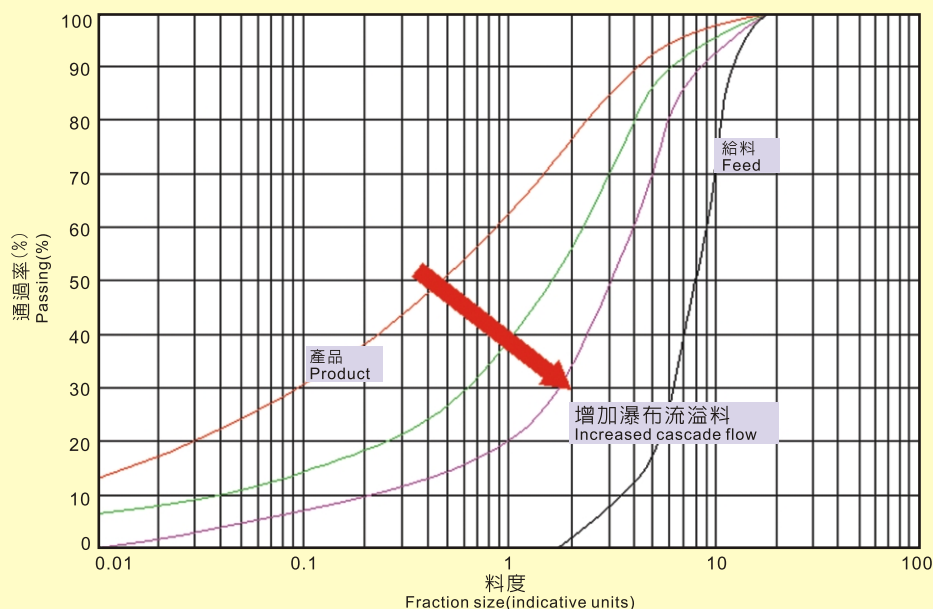
為因應各種不同需求與使用環境，啓銘V系列立式衝碎機(VSI)可隨時且快速作出下列調整，以期完全符合使用者之需求。

In order to meet various different requirements and environments, CMC V series vertical shaft impactor(VSI) can be adjusted rapidly as below shown to meet users requirement completely.

- 可變轉子轉速設計(1000~2500RPM) Changeable rotor speed (1000~2500RPM)
- 多種型式金屬壁反擊子(Anvil) Multi-types anvils
- 可調式多重瀑布流 Adjustable multiple cascade feed ratio
- 液壓調整可變入料閘門 Hydraulic adjustment feed control gate

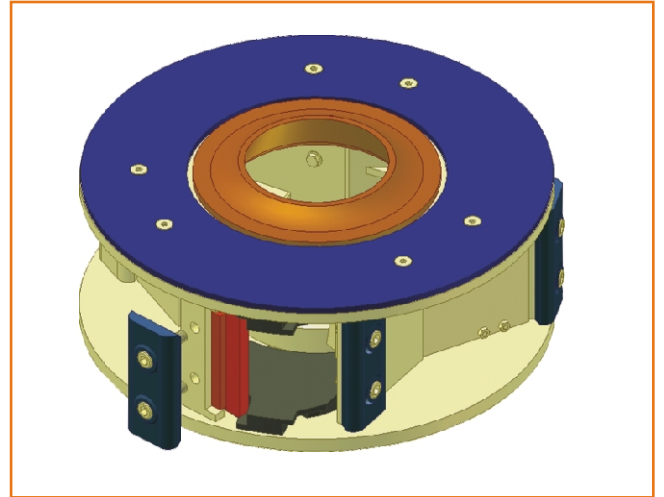
在不同組合調整下，使用者可取得最適當之配置，並得到最佳之品質與最大之產能及最低之磨耗成本。
By combinations of above adjustments users can get best condition and gain best product quality, maximum capacity and minimum wear cost.

增加瀑布流溢料 Increased cascade flow



啓銘V系列立式衝碎機(VSI)機械特性: Features of CMC V series vertical shaft impactor (VSI)

- 特別適用於傳統錐碎機 (Cone Crusher) 無法處理之細料 ($\phi 9\text{mm}$ 以下)。
- 特殊排料口設計，可完全處理高含泥量與高含水率之細料。
- 啓銘機械自行開發之高強度合金鎢鋼打擊子，平均使用壽命大幅提昇至150-143小時，非一般錳鋼或鎢鋼可比擬。
- 特殊多種型式金屬壁反擊子設計，破碎角度可變，破碎效率更高。
- 單邊馬達驅動設計，運轉更穩定且有效率。
- 全開式上蓋設計，維護保養更快速安全。
- 精密機台配重，運轉穩定震動小，安裝快速簡單，可大幅降低基礎設施成本。
- 全新設計轉子總成，更換磨耗件快速方便，且磨耗成本低。
- 獨特破碎原理，運轉噪音低，可大幅降低噪音防治設施支出。
- 可產出高等級之粒度產品，扁平比最低。
- 只需油脂潤滑，無需任何冷卻系統。



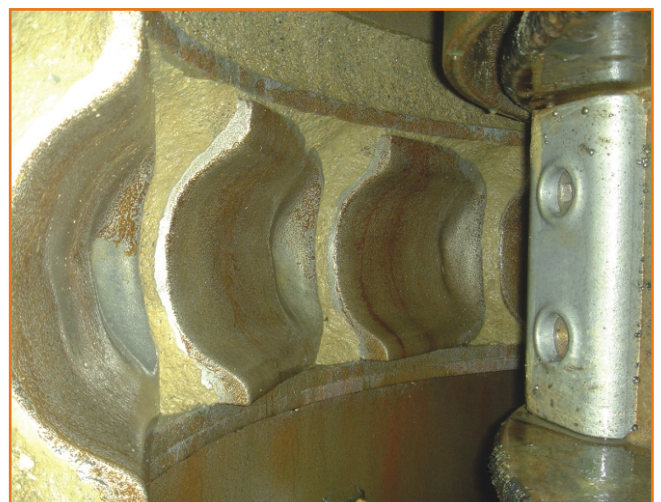
- Especially suitable for the fine material ($\phi 9\text{mm}$ below) which can not be processed by cone crusher.
- Special discharge port design can handle fine material with high percentage of mud and moistures.
- Unique high strength tungsten alloy rotor tips developed by CMC increase service life time up to 150 – 430hrs, which is not beatable by usual manganese or tungsten.
- Special multi types anvils design with changeable crushing angle reaches higher crushing efficiency.
- Single motor drive design for reliable and efficient operation.
- Fully open upper cover design for safe and rapid maintenance.
- Precise weight balance for stable operation with minimum vibration and fast installation. It decreases dramatically foundation cost
- Total new design rotor with rapid and easy change of wear parts. Also the wear cost is low.
- Unique crushing principle for low noise during operation which saves lots of anti-noise facility cost.
- High cubic class product with minimum flakiness ratio.
- Grease lubrication and no cooling system required.

啓銘V系列立式衝碎機(VSI)產量更大，磨耗更低

CMC V series vertical shaft impactors(VSI) with higher capacity and lower wear cost

啓銘V系列立式衝碎機(VSI)，以獨步全球之多種型式金屬壁反擊子(Anvil)，在處理不同特性原料時，可採用不同型式之金屬壁反擊子(Anvil)，形成不同之破碎角度與行程，使生產效率極大化，並且生產出符合規格要求之產品。應用於不同產品需求時，亦可藉由調整轉子線速度，改變原料撞擊速度與弧度，並配合調整多重瀑布流及液壓入料閘門，控制下料流量與路徑，多方搭配以取得最佳生產效益，並降低磨耗成本，多樣性的調整與組合，毫無疑問的可符合任何特性之原料與任何規格之產品組合。單一設備投資可取得多種不同之使用效益，此即為啓銘V系列立式衝碎機(VSI)無可取代之特點。

CMC V series vertical shaft impactor(VSI) equips with unique multi types anvils in the world. Different types of anvils can be applied for different properties' material to form different crushing angles and travel in order to maximum production efficiency and produce specified quality product. Rotor speed can be also changed in different products' requirement. This is done by changing material collision speed and path. By combining also cascade feed ratio and hydraulic adjustable feed control gate to control feeding rate and path, it can reach optimum production effectiveness and reduce wear cost. The versatile adjustments and combinations meet any property material and any material requirement no doubtfully. One machine investment only can have various application effectiveness and it is the irreplaceable features of CMC V series vertical shaft impactors(VSI).



建築骨材 Construction Aggregates

啓銘V系列立式衝碎機(VSI)，長期廣泛運用於高級建築骨材之製造生產，尤其對於骨材整形功效最為卓著，可產出最佳粒度與最低之扁平比之產品，大幅提昇預拌混凝土之強度與流動性，對於全球各地之高速公路，高速鐵路，高架橋樑，國際機場，摩天大樓等對建築骨材品質有最高要求之工程，更是不可或缺之設備。由於近來全球環境保護意識抬頭，特定區域之天然砂日益短缺，對於人工機製砂之需求正不斷提昇，啓銘V系列立式衝碎機(VSI)更是人工機製砂設備之最佳選擇。

CMC V series vertical shaft impactors (VSI) have consistently applied in producing high quality cubical shaped aggregates, especially have remarkable effect on material shaping and can produce best cubic and minimum flaky material. Thus it increases strength and mobility of ready mixed concrete dramatically and becomes necessary equipments for high quality aggregate required projects, like highway, high speed railroad, overpass, international airport, tall buildings etc. Due to the consciousness of environment protection raises worldwide, natural sand shortens in specific area and demand of crushed sand continuously increases. CMC V series vertical shaft impactor (VSI) is especially the best choice of crushed sand equipment.



水泥業 Cement Industry

啓銘V系列立式衝碎機(VSI)對於石灰石原料之破碎，有其得天獨厚之條件。高速多角度多層次破碎可完全符合水泥業者對細料之要求，且石灰石原料之特性，讓破碎磨耗特低，投資效益更高。可完全取代棒磨機於水泥生產業之應用。

CMC V series vertical shaft impactors (VSI) are excellent for limestone crushing. With multi angle and crushing action can fully meet fine material requirement for cement. Besides, due to the low wear characteristic of limestone, the return investment on VSI is much higher and can fully replace rod mill application in cement industry.



鋼鐵業 Steel Industry

啓銘V系列立式衝碎機(VSI)，對於鐵礦砂及煉鋼所需礦物破碎之應用更是日益廣泛。在同一台設備中，兼具破碎與粉碎之功能，可處理所有堅硬，高磨耗性，脆性，及粘性原料。產量大損耗低，是煉鋼廠破碎設備最有益之投資。

CMC V series vertical shaft impactors(VSI) are widely applied in iron ore and minerals for steel mill. In same VSI, with both crushing and grinding actions, can process all hard, high abrasive, brittle and sticky material. It is the most cost effectiveness investment of crushing equipments of steel mill.



廢棄物回收 Waste Recycling

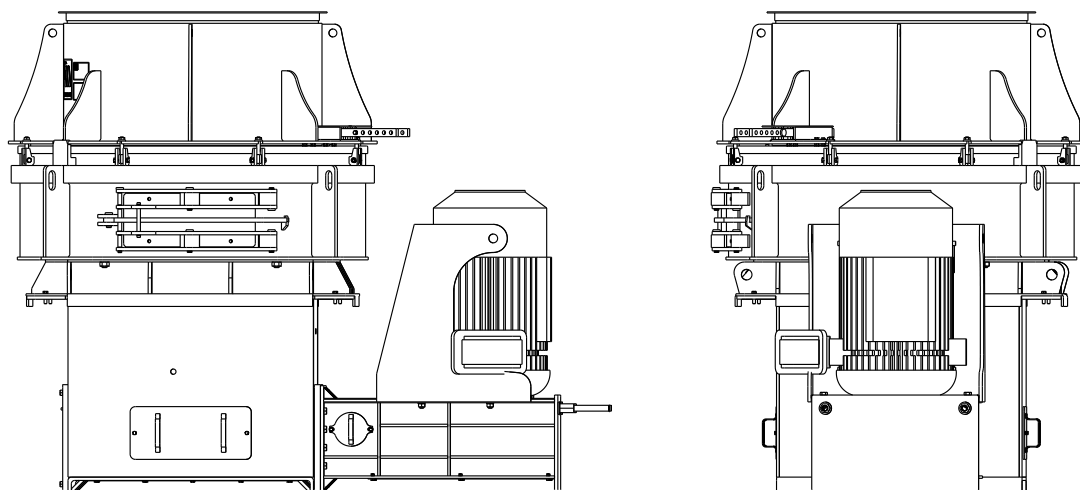
自人類進入二十一世紀以來，全球原物料短缺且環境保護意識抬頭，廢棄物回收產業因此急速發展。啓銘機械強烈意識到未來產業趨勢必然往此一方向前進。啓銘V系列立式衝碎機(VSI)亦快速切入廢棄物回收產業，無論是建築廢棄物、玻璃、陶瓷、塑料、爐渣及其他具回收經濟價值之廢棄物，皆已廣泛採用。並從實際生產過程中證明，啓銘V系列立式衝碎機(VSI)是廢棄物回收產業，最具效益且用途最為廣泛之設備。

As the raw material shortages since 21 century and the global community moves closer towards higher environmental consciousness, waste recycling industry thus grows up rapidly. CMC strongly senses such a future trend and CMC V series vertical shaft impactors(VSI) enter into waste recycling market areas rapidly. It is widely adapted CMC V series vertical shaft impactors(VSI) in various waste recycling, no matter in construction waste, glass, ceramics, plastic, slag and others economical waste. And from field proven, CMC V series vertical shaft impactors (VSI) are the most effectiveness and wide usage in waste recycling industry.



啓銘V系列立式衝碎機(VSI)機型規格

V series vertical shaft impactors(VSI) specification



	V-650	V-810	V-970
最大給料粒度* (mm) Max. feed size*	0~30	0~40	0~55
轉子尺寸(mm) Rotor diameter	650	810	970
安裝功率(kw) Power	100~150	150~300	370~600
轉子轉速(rpm) Rotor speed	1500~2500	1100~1800	1000~1800
通過能力** (tph) Through capacity**	50~350	70~850	250~1650
總重(kg) weight	9000	13000	17250

*上述數據為最大尺寸。

**上述產量數據依現場機械配置及破碎原理物料而不同。

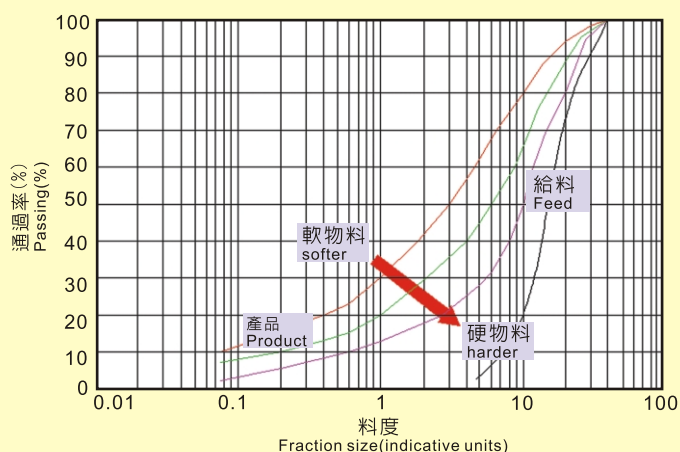
啓銘V系列立式衝碎機(VSI)多種規格，可充分滿足各種應用需求。上述規格表中的數據顯示各種機型大致應用情況及預估總重量，如需瞭解詳細資料或操作安裝說明，請直接與啓銘機械或各地經銷商聯繫。

*The above figures refer to maximum largest dimension.

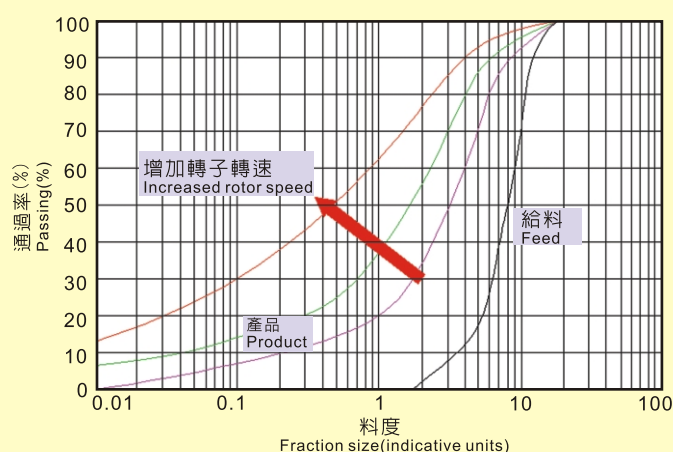
**The nominal capacities shown above will alter with changes to the selected operating parameters of crusher and variations in the physical characteristics of the feed material.

CMC V series vertical shaft impactor (VSI) is offered in a wide range of sizes to cover all application requirements. The data provided in this brochure shows the approximate application details and estimated total weight. All details are subject to change without notice. For precise application and installation details contact CMC or your nearest agent/ dealer.

物料硬度變化 Changes in material hardness



轉子轉速變化 Changes in rotor speed



對客戶的承諾 啓銘責任的開始

Commitment for customers is the start of CMC'S responsibility

■ 啓銘機械自1969年由董事長簡正旭先生創立以來，數十年來，啓銘堅持“品質、服務、創新”的經營理念以及精益求精的精神，不斷在產品技術製程上致力改善，追求碎石設備之現代化、先進化及生產流程簡單化、一貫化以滿足客戶的需求，範圍涵蓋整廠碎石設備諮詢的規劃、設計、安裝、售後服務及操作訓練。

一本以往精神，傾聽客戶的需求，追求更先進技術，致力產品國際化，期能為客戶創造更大利益，為社會建設做出更多的貢獻。

■ Since CMC (Chyi Meang Machinery Co.,Ltd) was founded in 1969 by Mr. Jean Hsu Chien, For decades, CMC insists "Quality, Service, Innovation"-company motto and the spirit of pursuing better on better in continuous improvement on product technology and manufacture facilities/process.CMC has devoted to the modernization of stone crusher and the production process simplification/centralization to meet customer satisfaction. Our ranges cover consultancy, planning, design, manufacture, installation, after sales service and training of complete stone crusher plant equipments.

CMC keeps same spirit as usual,pursues more advance technology,devote to products' internationalization. CMC endeavors to create maximum advantages for clients.

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