



上海世邦机器有限公司  
SHANGHAI SHIBANG MACHINERY CO., LTD.



# CI5X 系列反击式破碎机

## *CI5X Series Impact Crusher*

高效率岩石处理设备

*High-efficiency Rock Processing Equipment*



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### High-efficiency Rock Processing Equipment

为了满足用户对高收益、低成本和节能降耗的需求，针对传统破碎设备操作繁琐、效率低等问题，世邦工业科技集团股份有限公司作为全球顶尖的矿山破碎设备供应商，根据全球160多个国家的实地工程经验和用户反馈，结合最新研发成果开发出新一代高效粗、中细碎破碎机——CI5X系列反击式破碎机，是传统设备的理想升级换代产品。

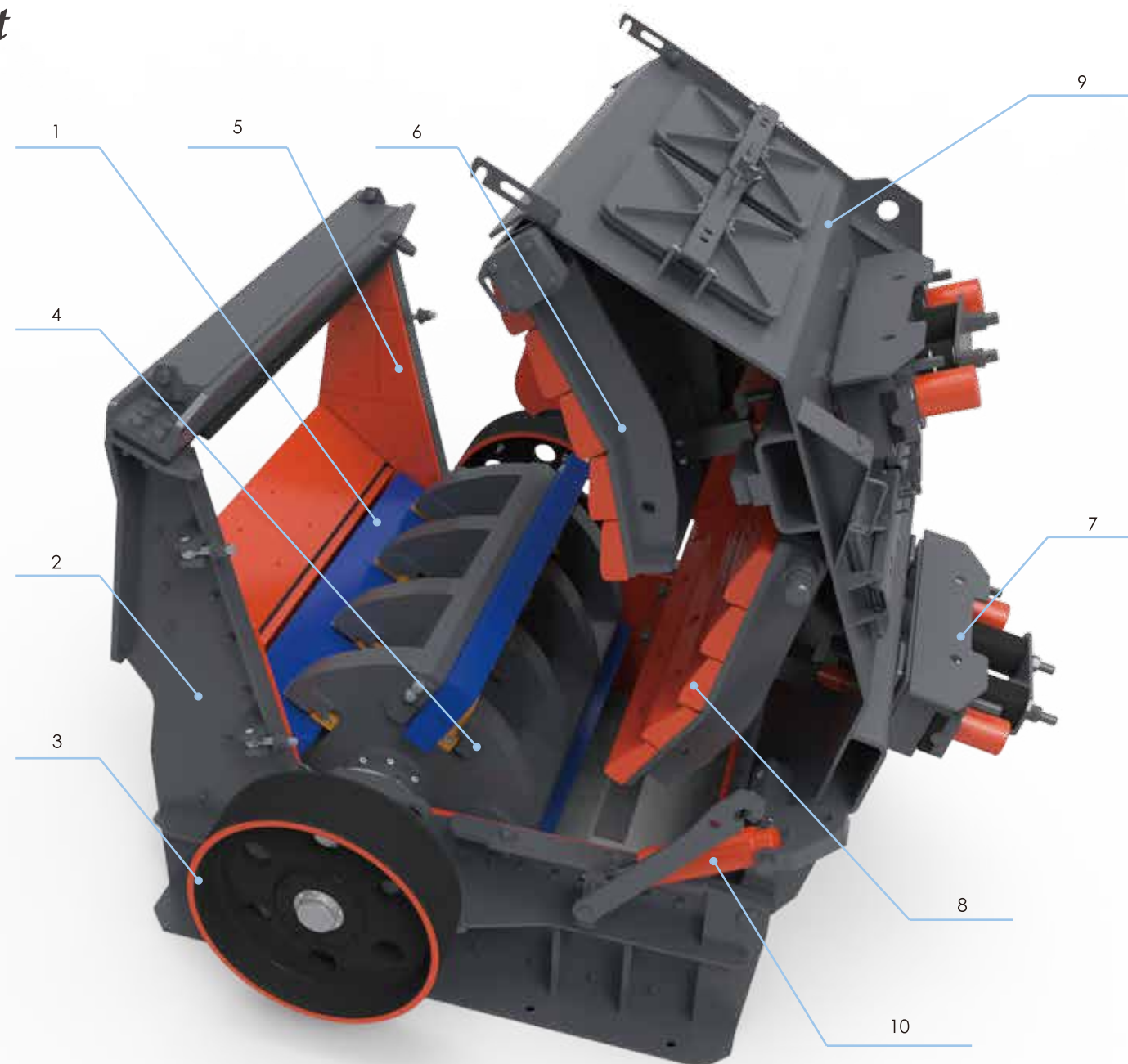
To satisfy users' requirements for high profits, low costs, and energy saving, and to overcome the shortcomings of conventional crushing equipment such as complex operation procedures and low crushing efficiency, SBM as a world-class supplier of crushing equipment used in mines, according to the feedback from users in more than 160 countries as well as its experience in engineering application, and taking into consideration of the latest scientific research achievements, has developed the new generation of high-efficiency coarse and medium-fine crushing equipment – CI5X series impact crushers. They are ideal upgrade of conventional crushing equipment.

当用于软岩的粗碎、中细碎作业时，CI5X系列反击式破碎机代表了当今最先进的破碎工艺和技术，大转动惯量高精度转子、多功能全液压操作系统、渐开线型高效破碎腔等最新科研成果成功的整合应用以及关键部件耐磨材料的选择，赋予了设备更高的破碎效率、更简单的维护操作、更可靠的性能。

In respect of coarse or medium-fine crushing of soft rocks, CI5X series impact crushers represent the most advanced crushing workmanship and technology currently in the world. Successful integrated application of such latest scientific research achievements as great-rotation-inertia high-precision rotor, multi-functional fully-hydraulic operating system, and high-efficiency involute-shaped crushing chamber, in conjunction with correct selection of wear-resistant materials of critical components, provides CI5X series impact crushers with higher crushing efficiency, higher reliability, and greater easiness of maintenance and operation as compared with conventional crushing equipment.

总之，CI5X系列反击式破碎机的高效率破碎和人性化操作设计，使其能适应多种破碎工况、针对用户的需求提供高效率的解决方案，帮助用户实现投资回报最大化。

In short, high-efficiency crushing workmanship plus ergonomic design enable CI5X series impact crushers to adapt to various crushing conditions and meet users' needs. They are high-efficiency solutions and can help users maximize returns on investment.



#### 主要结构:

#### Typical Construction:

- 1—板锤; Hammer Bar
- 2—下机架; Lower Frame
- 3—皮带轮; Pulley
- 4—转子; Rotor
- 5—机架衬板; Lining Plate
- 6—反击架; Impact Ract
- 7—液压调整装置; Hydraulic Regulation Device
- 8—反击衬板; Impact Plate
- 9—上机架; Upper Frame
- 10—液压启顶装置; Hydraulic Jacking Device



## -----最新科研成果整合应用-----

### *Integrated application of latest scientific research achievements*

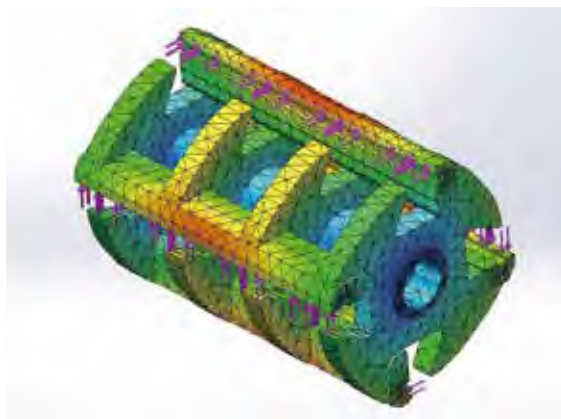
CI5X系列反击式破碎机在分析了大量国内外反击式破碎机技术和工况的基础上，将破碎腔、转子和调整装置等多项最新科研成果整合应用，使得设备的破碎性能和操作维护性能达到国际最先进水平。

Integrated application of many latest scientific research achievements, for example, those concerning crushing chamber, rotor and adjusting device, based on the analysis of technical details and operating conditions of a good many domestic and foreign impact crushers makes CI5X series impact crushers internationally most advanced in respect of crushing performance and easiness of operation and maintenance.

#### **大转动惯量高精度重型转子 Great-rotation -inertia high-precision rotor**

CI5X系列反击破转子采用大转动惯量的高精度重型转子设计，经过数控机床整体加工，配备高品质轴承，保证转子精度和高承载能力，物料可以经过充分加速而破碎，破碎比更大，同时在高负荷工作时，转子的高转动惯量能更有效的破碎物料，配合反击架的自动过载保护功能，确保设备稳定运行。

CI5X series impact crushers have a heavy-duty, great-rotation-inertia, high-precision rotor that is machined using numerically-controlled machine tool and equipped with high-quality bearings that have great load ability and high rotation precision. Material breakage after full acceleration produces a greater reduction ratio. Under a heavy load, the rotor exhibits great rotation inertia, more effectively crushing materials. The impact racks of automatic overload protection along with the rotor ensure the safe and stable operation of impact crusher.



#### **多功能全液压操作系统 Multi-functional fully -hydraulic operating system**

CI5X系列反击破采用多功能全液压操作系统，反击架间隙调节采用全液压装置，调节精度高，速度快，降低人工和时间投入，提高设备的作业率；利用反击架调节液压系统可以直接驱动启闭装置液压缸，方便设备板锤和反击块的维护工作，实现了排料粒度调节、机器维护的轻松快速完成，降低了工作强度、减少停机时间，提高设备作业率。

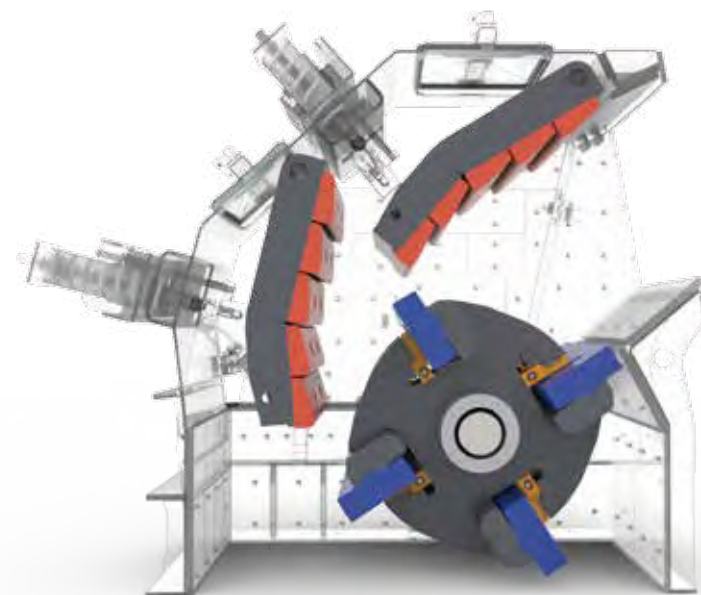
CI5X series impact crushers employ a multi-functional, fully-hydraulic operating system to accurately and rapidly adjust the clearance between impact rack and rotor to realize discharge grain size adjustment, saving both labor and time, and increasing machine utilization ratio. The hydraulic cylinder of the opening and closing device can be directly operated by the hydraulic system, facilitating maintenance of hammer bars and impact blocks hence reducing production interruption time.



#### **渐开线型高效破碎腔 High-efficiency involute -shaped crushing chamber**

破碎腔采用仿真软件设计并经实践验证的渐开线型高效大破碎腔型，破碎效率高，进料粒度更大，可以用于中硬和较软岩石的粗碎和中细碎作业；物料在破碎腔内经过多次撞击破碎，产品粒型成立方体，可以满足高品质骨料的加工生产要求。

The crushing chamber is a high-efficiency, involute-shaped crushing chamber designed with simulation software and verified through actual application. It can process materials of larger grain size. It can be used in the coarse and medium-fine crushing of medium-hard and soft rocks. Undergoing collision time after time in the crushing chamber, rocks break into high quality cubic aggregates satisfying production requirements.



## 高标准的原材料确保设备高强度

### *Raw materials to high standard ensuring high strength of equipment*

CI5X系列反击破与同类产品相比，性能更可靠、强度更高，这一切都归功于品质一流的原材料选择，并且整机采用ANSYS有限元计算机辅助设计，不仅保证了设备在运行的过程中安全可靠，还大大降低了设备维修成本，提高了破碎机使用寿命。

Compared to conventional crushing equipment, CI5X series impact crushers present higher reliability, safety, and strength as they are designed with computer-aided finite element design software ANSYS, and fabricated with raw materials of first class quality. The crusher maintenance costs are greatly reduced with the service life extended.

#### 轻量化机架 Lightweight frame

优化机架结构，选用高强度优质钢材制造，整体经过加工，设备结构紧凑，强度高重量轻，安装运输也更加方便。

Optimized structurally, fabricated with quality steel, and machined integrally, the frame is of high strength, compact, light, and easier to transport and install.



#### 高精度主轴 High-precision shaft

CI5X系列反击破主轴采用优质钢材锻造而成，经过高精度加工，配合高品质轴承，使设备在持续高强度工作时依然非常稳定。

Forged with quality steel, machined highly accurately, and supported by high quality bearings, the shaft is capable of operating very steadily even under harsh conditions.



#### 高强度反击架 High-strength impact rack

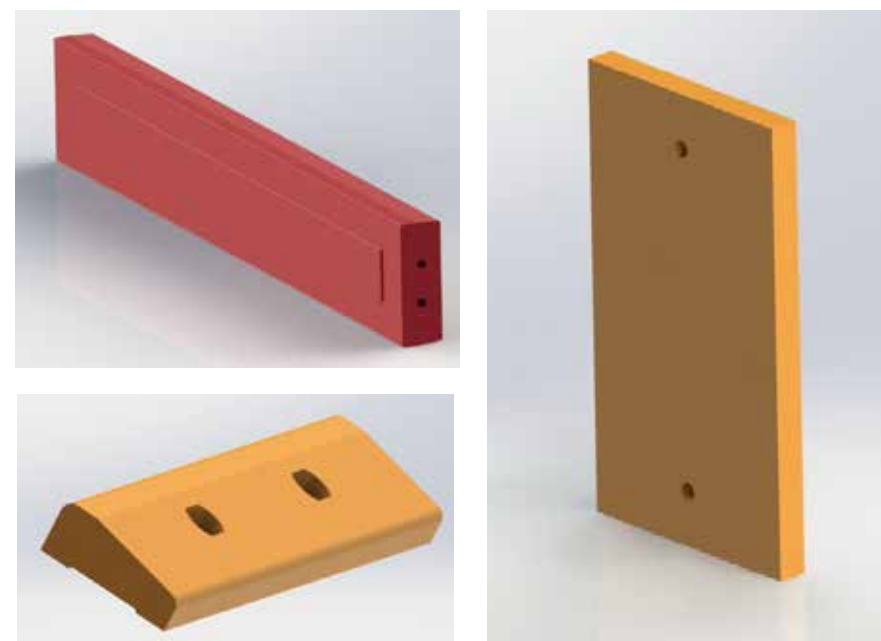
反击架采用高强度钢材焊接而成，高耐磨反击块通过大直径螺栓固定在反击架加工面上，整体强度大，且能很好的避免在工作过程中反击块的非正常脱落。

Highly wear-resistant impact blocks are fixed by large-diameter bolts to the machined faces of high-strength steel welded impact racks, producing high integral strength and effectively avoiding accidental detachment of impact blocks during (the) operation.

#### 高耐磨板锤 Highly wear-resistant hammer bars

CI5X系列反击破的板锤和衬板都采用高耐磨材料，使用寿命大大提高；板锤经过加工精度更高，采用特殊的斜块固定在转子上，固定可靠，磨损后可以翻转使用，提高易损件利用率。

Both the hammer bars and liner plates are made of highly wear-resistant steel, with service life greatly prolonged. The hammer bars more accurately machined are securely fixed by special wedge-shaped blocks to the rotor. The hammer bars are so designed that these can be reused by repositioning after one face wears out, with the utilization ratio increased.





## ---人机工程设计理论降低使用成本---

### *Ergonomics design theory reducing operation cost*

CI5X系列反击式破碎机的优秀源于其顶尖设计和材料，即使是最微小的细节也做到了尽善尽美，它不单保证设备高强度高性能，还兼顾了可靠性和维护操作便利性，引入人机工程设计理论，使得易损件更换与整机维护更加简单便捷，减少了停机时间，降低了运行成本。

(The) Excellence of CI5X series impact crushers comes from their first-class structural design and material selection, pursuing perfection in every tiny detail. High reliability, maintainability, and operational convenience are ensured besides high strength and performance. Replacement of vulnerable parts and maintenance of the machine are simplified by ergonomics design with both production interruption time and operation cost reduced.

### **整体式轴承座设计降低损坏风险 Integral bearing block design reducing risk of damage**

CI5X系列反击式破碎机采用整体式轴承座设计，利用特殊定位装置，提高了径向承载能力，降低了轴承因轴承座移位受到损坏的风险。

Integral bearing block utilizes special positioning design enhancing radial load ability and reducing the risk of bearing damage due to bearing block displacement.



### **油脂润滑 Grease lubrication**

设备轴承采用油脂润滑形式，润滑和密封可靠，确保轴承持续稳定工作，润滑方便快捷。

Efficiently lubricated with grease and provided with reliable seals, the bearings are capable of continuously operating steadily. Grease addition and replacement can be performed conveniently.



### **液压调整装置方便快捷 Hydraulic adjustment device quick and convenient**

CI5X系列反击式破碎机采用液压调整反击架，可以连续调节反击架和转子间隙，以控制设备的排料粒度和级配，调节过程方便快捷。

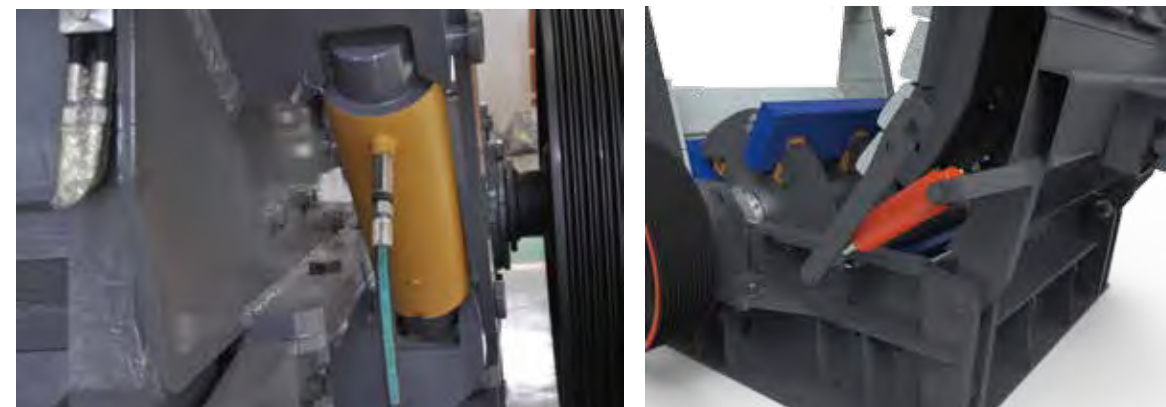
Clearance between impact rack and rotor can be hydraulically adjusted continuously and conveniently to control discharge grain size and gradation.



### **液压启闭装置易于维护 Hydraulically-operated opening and closing device easy to maintain**

设备在维护的时候可以通过液压系统直接控制启顶液压缸，实现上架的开启和闭合，无需额外吊装设备，方便维护。

To maintain the machine, hydraulic cylinder can be directly driven by the hydraulic system to open and close the frame, with maintainability enhanced without need of any hoisting equipment.



---粗碎和中细碎多种机型选择---

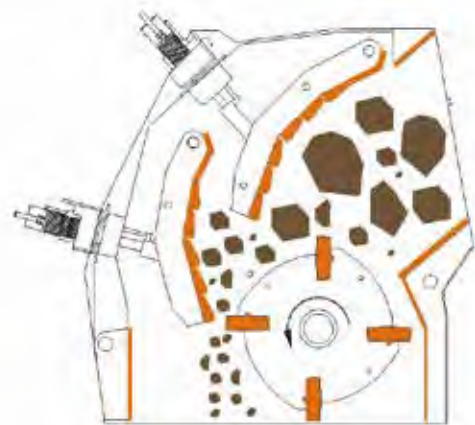
Selection from a variety of  
coarse and medium-fine crushing models

CI5X系列反击式破碎机有粗碎和中细碎多种机型，无论是用作中硬和软物料的大中产量的粗碎还是细碎作业，均有最理想的设备选择。

Selection from a variety of coarse and medium-fine crushing models of CI5X series impact crushers can be made so that the selected model is absolutely ideal for the coarse or medium-fine crushing of medium-hard or soft materials with huge or medium throughput.

CI5X系列反击式破碎机粗碎机型破碎腔和进料口设计更高更大，可以处理更大的物料，大破碎比，通常用作粗碎作业；中细碎机型设计更注重破碎的效果以及成品的质量，进料粒度相对较小，通常用于中细碎作业；也可以根据需求选配第三反击架，进一步提高成品质量。

The coarse crushing models of CI5X series impact crushers are designed to have a larger feed opening and crushing chamber able to receive and process materials of large grain size to a great reduction ratio. The design of medium-fine crushing models of CI5X series impact crushers attaches more importance to the crushing effects and quality of crushed products. The materials to be processed by these machines generally have a comparatively small grain size. A third impact rack may be installed to further improve the quality of crushed products.



技术参数

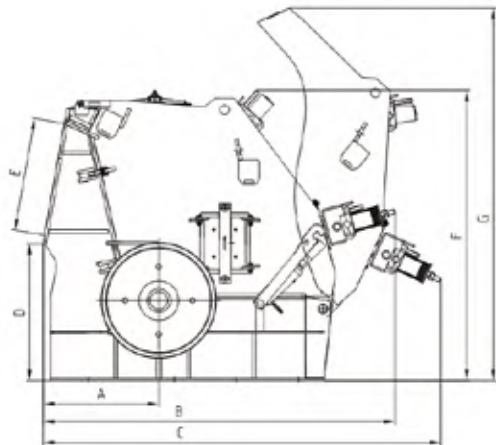
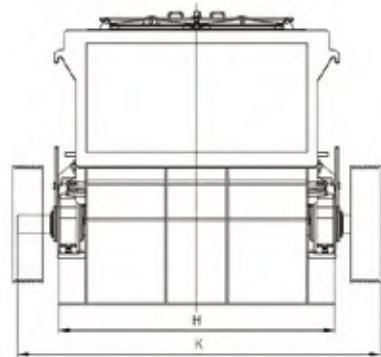
Technical Information

型号	转子规格	进料口尺寸	最大进料粒度	处理能力	标配装机功率	功率
Model	Rotor spec (mm)	Feed opening (mm)	Maximum feeding size (mm)	Capacity (t/h)	Nominal installed power (kW)	Power (kw)
CI5X1110	1100×1000	1020×820	500(推荐≤250)	150-200	160	160-200
CI5X1213	1200×1300	1320×880	550(推荐≤300)	200-300	200	200-250
CI5X1315	1300×1500	1540×930	600(推荐≤300)	250-350	250	250-315
CI5X1520	1500×2000	2040×995	700(推荐≤350)	400-600	250×2	400-500
CI5X1313	1300×1300	1320×1225	800(推荐≤550)	300-450	200	200-250
CI5X1415	1400×1500	1540×1320	900(推荐≤600)	350-550	250	250-315
CI5X1620	1600×2000	2040×1630	1100(推荐≤700)	500-900	200×2	400-500
CI5X2023	2000×2300	2310×1990	1300(推荐≤800)	1200-2000	500×2	1000-1200

注：处理能力是基于物料的松散密度1.6t/m3，瞬时取样的测定结果。  
Capacity is indicative for instantaneous sampling results of materials with bulk density of 1.6t/m3 .

外形尺寸图

Overall Dimensions



型号	外形尺寸 Overall dimensions								
Model	A	B	C	D	E	F	G	H	K
CI5X1110	805	2600	2830	1120	820	2300	2720	1900	2100
CI5X1213	870	2800	3150	1200	880	2410	2880	2150	2530
CI5X1315	920	2880	3265	1296	935	2560	3058	2250	2755
CI5X1520	1115	3390	3767	1317	995	2790	3480	2646	3475
CI5X1313	635	2990	3390	1380	1230	2950	3410	2300	2560
CI5X1415	615	2995	3395	1430	1330	3090	3610	2450	2790
CI5X1620	855	3485	3940	1780	1640	3720	4405	2900	3605
CI5X2023	1460	4890	5040	2455	1925	4765	5710	3880	4330

粒度曲线

Indicative  
Gradation Curves

