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HST 系列单缸液压圆锥破碎机

HST series singlecylinder hydraulic cone crusher

—为您提供高效、可靠、经济的破碎工艺—

HST of Zenith Provides Efficient, Reliable and Cost-saving Crushing Process



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高效

High-performance

经济

Cost-effective

可靠

Reliable



**Crush Rocks,
Build Dreams!**

HST系列单缸液压圆锥破碎机

HST Series Single Cylinder Hydraulic Cone Crushers



www.zenithmining.com

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产品简介

HST系列单缸液压圆锥破碎机采用世界最先进的破碎机技术研发而成。集机械、液压、智能控制等技术于一体的全新破碎机结构，结合优化的层压式破碎腔型，全智能自动化控制系统，使HST系列单缸液压圆锥破碎机拥有传统圆锥破碎机无可比拟的性能特点：多种可选择腔形、破碎效率高、生产成本低、调整维护方便、产品粒型优异，可以广泛地应用于中碎、细碎及超细碎作业。

Introduction

HST series single cylinder hydraulic cone crushers adopt the world's most advanced crushing technology. The new structure integrating mechanics, hydraulics, intelligent-control and other technologies, together with optimized interparticle crushing cavity and full-intelligent automatic control system, endows the HST with excellent performance that traditional cone crushers cannot compare with: various crushing cavities, high crushing efficiency, low operating cost, easy maintenance and cube sized product. HST can be widely applied to secondary, tertiary, and quaternary crushing process.



应用领域

HST可广泛应用于金属与非金属矿，水泥，砂石，冶金等各个行业，适用于中细碎的各种矿石和岩石，如铁矿石，有色金属矿，花岗岩，玄武岩，石灰岩，石英岩，砂岩，鹅卵石，安山岩，辉绿岩等。

Application

HST can be widely applied to different mines (metal & non-metallic), different industries (cement, sand and metallurgy), and various ores and rocks in secondary and tertiary crushing process, such as iron ore, non-ferrous metal ore, administrator, quartzite, sandstone, cobblestone, andesite, diabase and so on.

产品结构

Structure of Product

HST 系列单缸液压圆锥破碎机主要由上架体、中架体（中碎型）、下架体、动锥部、偏心套部、传动部、液压缸部等部件组成，由电动机带动水平轴旋转，水平轴通过齿轮带动偏心套旋转，再由偏心套带动动锥部做圆周摆动，从而实现连续的挤压破碎石块。该产品主要结构特点如下：

HST series single cylinder hydraulic cone crusher mainly consists of several parts: upper frame, middle frame (secondary crushing model), lower frame, movable cone, eccentric sleeve, transmission part and hydraulic system. The electric motor drives horizontal countershaft to rotate, the horizontal countershaft drives eccentric sleeve to rotate by gear, and then eccentric sleeve drives movable cone to swing circularly, so that the stones can be crushed continuously. The main structure features are as follows:

1. 主轴采用两端支撑设计，滑动轴承引进特殊油楔设计，使运行更可靠。

两端支撑使主轴受力更稳定，设备承载能力更大。
特殊的油楔设计避免轴与轴承的直接摩擦接触，降低了发热量，延长了轴承的使用寿命。此外滑动轴承采用特殊材料，使设备承载能力大，抗粘附能力强，具有很强的恶劣工况适应能力。

Unique Main Shaft Strut and Sliding Bearing Design

For main shaft, strut on both ends design stabilizes the stress and improves the equipment's bearing capacity and reliability.

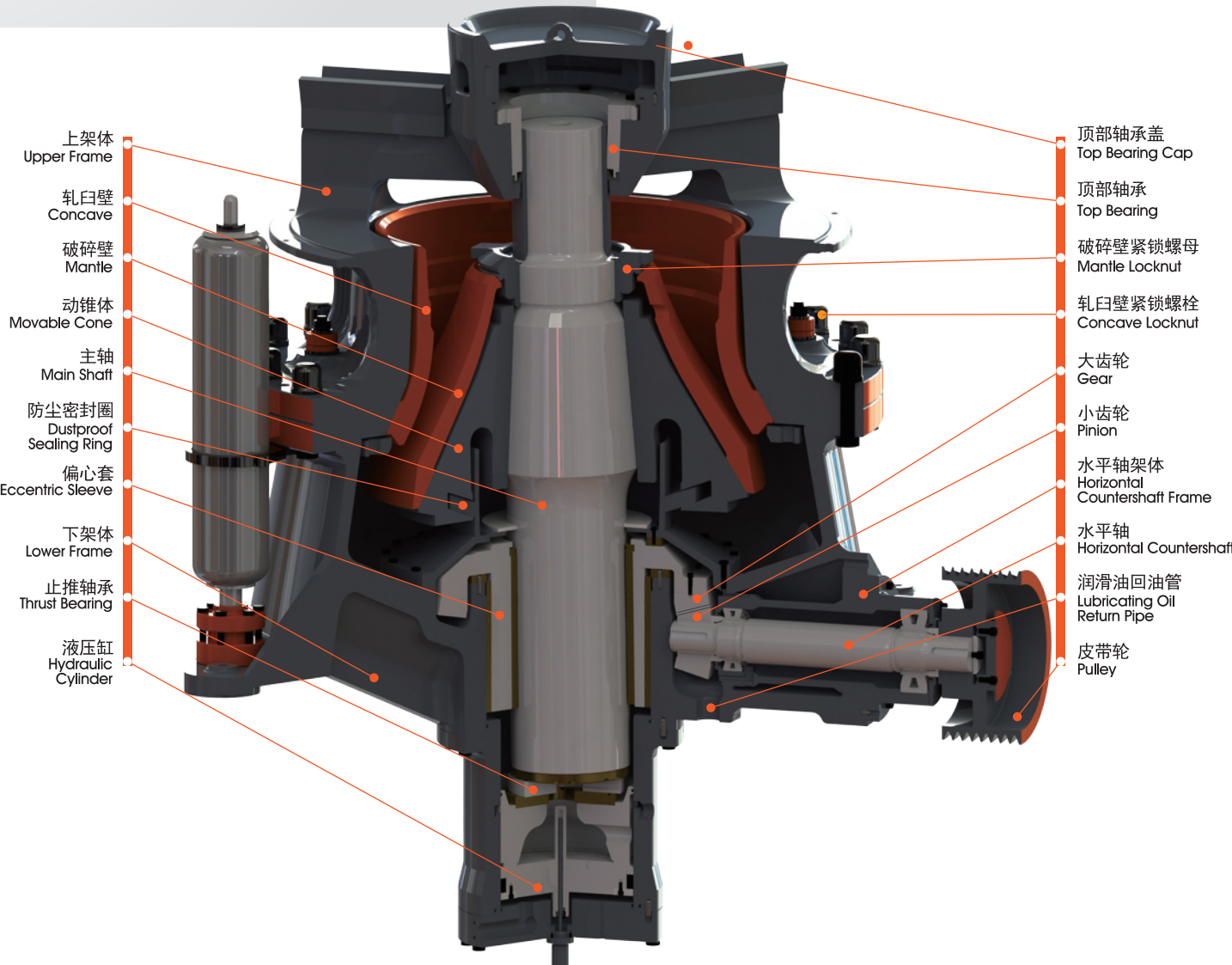
Special oil wedge design for sliding bearing can avoids direct functional contact of the shaft and bearing. In addition, special bearing materials bring greater compressive capacity, excellent ability to resist adhesive and amazing adaptability in poor working conditions.

2. 机体增强设计

机体整体结构进行优化，加强筋布局优化设计，上部机架采用星形臂架布置方式。

Enhanced Frame

The whole frame structure and the layout of the strengthening rib are optimized. Besides, the upper frame adopts unique star jib structure.



3. 传动系统设计

传动系统采用螺旋伞齿轮传动，传动效率高、可靠、平稳，噪音低，寿命长。
传动轴采用滚动轴承设计，选用轴承材料，承载能力更强。

Transmission System

By using spiral bevel gear, the transmission system ensures that the transmission process is high efficient, reliable and stable with low noise and long lifespan.
The transmission shaft adopts rolling bearing and unique bearing material to promise a greater compressive capacity.

4. 排料口调整装置和过铁保护装置

采用主轴浮动和液压升降控制相结合的结构，将排料口的调整和过载保护功能集于一体，在保证性能的同时，简化了破碎机的结构，相比其他类型的圆锥破碎机，不必再额外添加繁杂的排料口调整装置和过铁保护装置。

Discharging Adjustment & Overload Protection

By adopting a structure that combines main shaft floating and lift control by hydraulic pressure, the discharging adjustment and overload protection are integrated and can be achieved meanwhile.

The optimized structure design simplifies the crusher structure while ensuring the performance. Compared with other types of cone crushers, the HST series need no extra additional complicated discharging adjustment device or tramp releasing system.

5. 优化的液压润滑站设计

液压站、润滑站一体化设计，更节省设备安装空间。

Optimized Hydraulic Lubrication Station

Integrated design of hydraulic station and lubrication station saves the installation space.

产品特点

Product Features

1. 生产能力大，破碎效率高

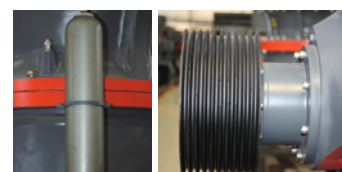
HST的完美性能依靠于整体结构间的完美配合。通过将破碎腔型、偏心距与运动参数完美组合设计，实现了将更大的破碎力、更高的转速与最佳的冲程相匹配。并且结合优化的强度设计，高质量的部件材料，使HST在动锥大端直径相同的情况下，比弹簧圆锥破产量高20%—30%。

Large Capacity & High Efficiency

The high performance of HST series cone crusher depends on the perfect match between different components.

With perfect integration of eccentricity, cavity and equipment motion parameters, HST has achieved stronger crushing force, higher speed and the best stroke. The optimized strength design and high quality components endow HST with greater compressive capacity.

The capacity of HST is 20%-30% higher than that of spring cone crusher with the movable cones of same diameter.

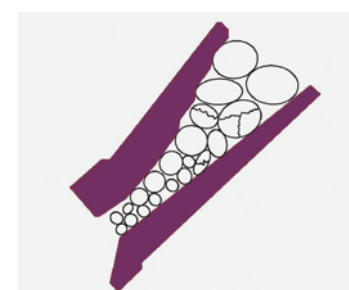


2. 层压破碎，产品粒形好

HST采用层压式破碎原理，配以动锥的高摆频，在提高产量的同时，显著改善了产品粒型,使成品中优质粒型所占比例明显提高，粒型更为均整。

Interparticle Crushing& Cube Sized Product

Interparticle crushing principle with high pendulum frequency of movable cone increases the capacity and improves particle shape of the product significantly, making the proportion of superior particle shape in the finished products increase significantly and particle shape is more regular.



多颗粒层压破碎
Interparticle Crushing

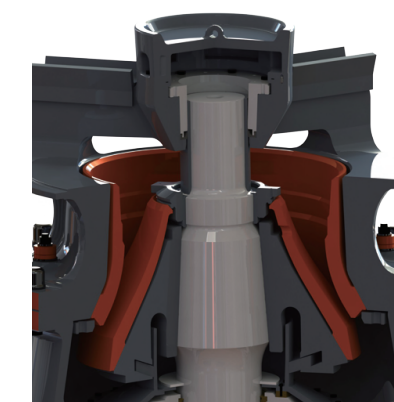
3. 多种腔形结合最佳冲程，适应多种粒度需求

设备有中碎和细碎两种机型，每种机型有多种标准腔型可供选择，偏心距可通过更换偏心套进行调整。根据不同的生产工艺，配备合适的生产腔型和偏心距，实现设备价值的最大化。HST系列单缸液压圆锥破适合于粗碎后的二段破碎，同样也是三段和四段破碎的最佳选择。在用作二段破碎时，可以将粗碎设备排料口调至最大，大大提升生产线的通过能力。

Multiple Cavities with the Best Stroke to Meet Various Process Requirements

HST can be applied to both coarse crushing and fine crushing. For a certain type of HST , there are various cavities to choose, and the eccentric distance can be adjusted by changing the eccentric sleeve. Different cavities and eccentric distances can be equipped according to different production processes so that the equipment value can be maximized.

HST series cone crushers can provide excellent performance in secondary crushing, and it is also the best choice for tertiary and quaternary crushing. As a secondary crusher, the capacity of production line can be greatly improved by maximizing the primary crusher's closedside setting.



4. 长寿命衬板

恒定腔形的设计理念，是衬板在破碎磨损的情况下腔型基本保持不变，保证高效破碎效率，从而实现衬板同步磨损，避免了衬板局部的恶意损坏，达到衬板的磨损率一致，延长了衬板的使用周期

Long lifespan Lining Plate

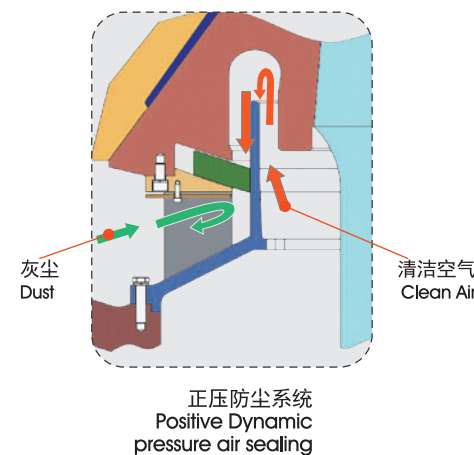
The design concept of constant crushing cavity means that the cavity shape remains the same when lining plate is worn, which can ensure high crushing efficiency, thus achieving synchronized wear of lining plate, avoiding local damage of lining plate, and reaching a consistent wear rate, extending the cycle of lining plate.

5. 结构简单，易于维护运行成本低

设备结构简单，所有维修工作都可在取下上机架后完成，这不仅让检查、检修更方便，同时使维护成本更低。

通过正压防尘系统保证破碎腔内部压力始终高于外部压力，有效地降低了进入破碎机的灰尘或其它小颗粒，减少了对轴承的破坏，从而减少了维护工作量，延长了润滑油和设备的使用寿命。

除以上特点之外，HST系列单缸液压圆锥破碎机整体上设计紧凑，破碎机安装空间小，更便于移动。



Simple Structure & Low Operating Cost

All the maintenance work can be completed after removing the upper frame, which not only makes the device inspection and maintenance easier but also reduces the maintenance cost.

Dust and other unwanted particles can be prevented from entering the cavity by ensuring that the cavity's inner pressure is always higher than its external pressure. Thus, the damage of bearings and maintenance work is reduced. The life cycle of lubricating oil and device are extended.

In addition, the compact design of main machine saves installation space, which making the device easy to move.

6. 液压自动清腔、过载保护

采用主轴浮动和液压升降控制相结合的结构，集排料口的调整和过载保护功能于一体，简化了破碎机结构的同时，提高了设备运转的可靠性，使维修更简单、操作更方便、停机时间更短。

Hydraulic and Automatic Clearing the Cavity and Overload Protection

The unique and optimized structure combining floating main shaft and hydraulic lift control, integrates the function of adjustment of discharge gate and overload protection, simplifies the structure of crusher, meanwhile, improves the reliability of equipment operation, making maintenance easier, operation more convenient and downtime shorter.

7. 全自动控制生产过程

全自动控制系统提供手动控制、恒定排料口控制、恒定功率控制等多种运转模式供用户选择；

可连续监测破碎机内部实际负荷，自动对设备进行调节，从而优化破碎机的利用率，使破碎机在任何工作时间都能发挥其最佳性能；

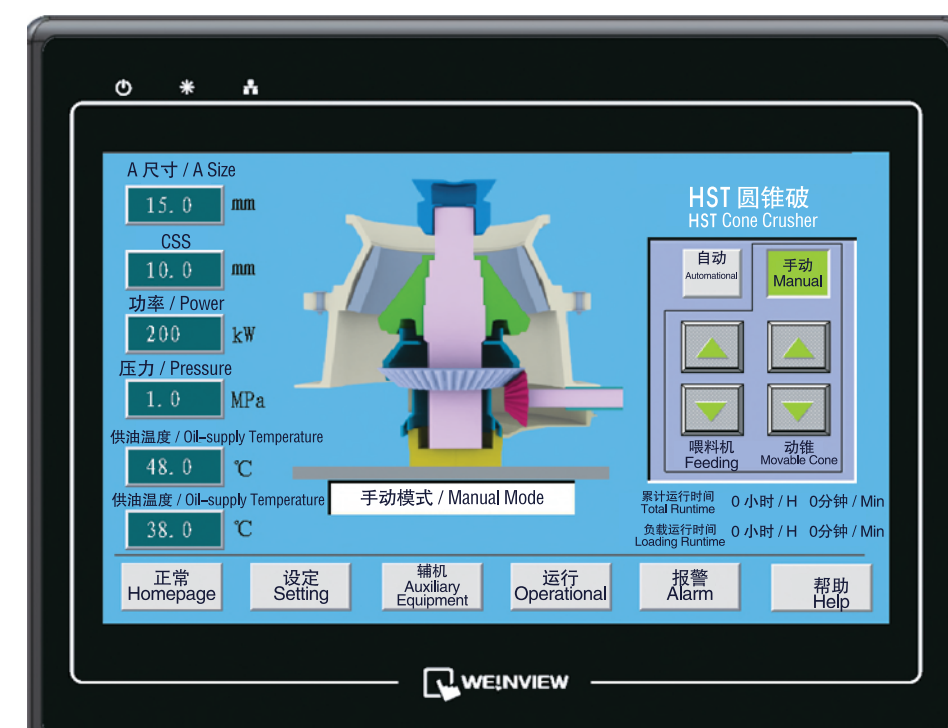
能自动监测并提供告警，显示各种运行参数，实时了解破碎机运行情况。如：当衬板磨损到更换期不能再继续使用时，便在控制盘上自动显示和报警。

Full Automatic Control

Full automatic control system provides manual control, consistent discharging control, consistent power control and other kinds of operating mode for users to choose.

It can continuously monitor the actual load inside the crusher, so as to optimize the utilization rate of the crusher and maximize its performance by automatically adjusting the equipment.

Besides, the system can automatically and performance of the equipment, alarm and display various operating parameters, enabling the user to command real-time running situation of the equipment. For example, when the liner is too worn to be used, the control panel will display the condition and emit an alarm automatically.



全自动控制系统
Automatic control system

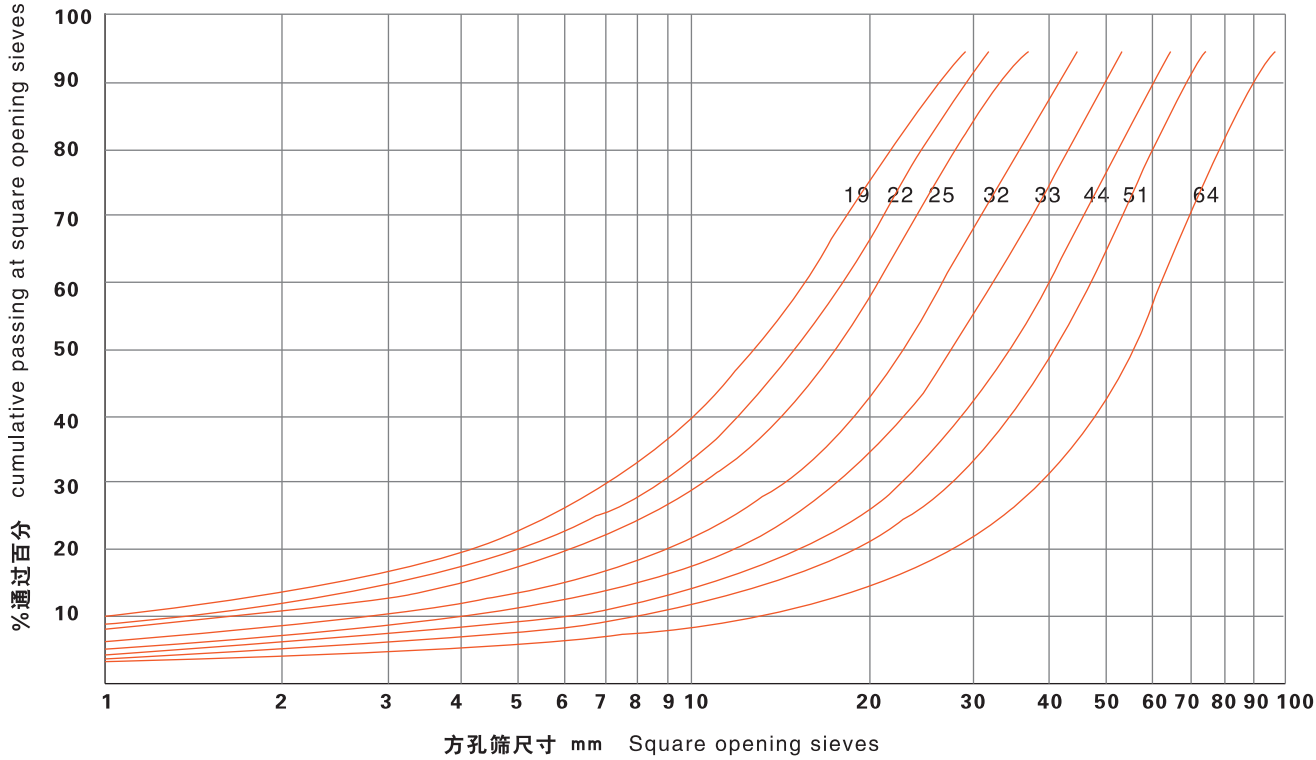
技术参数
Technical Parameters



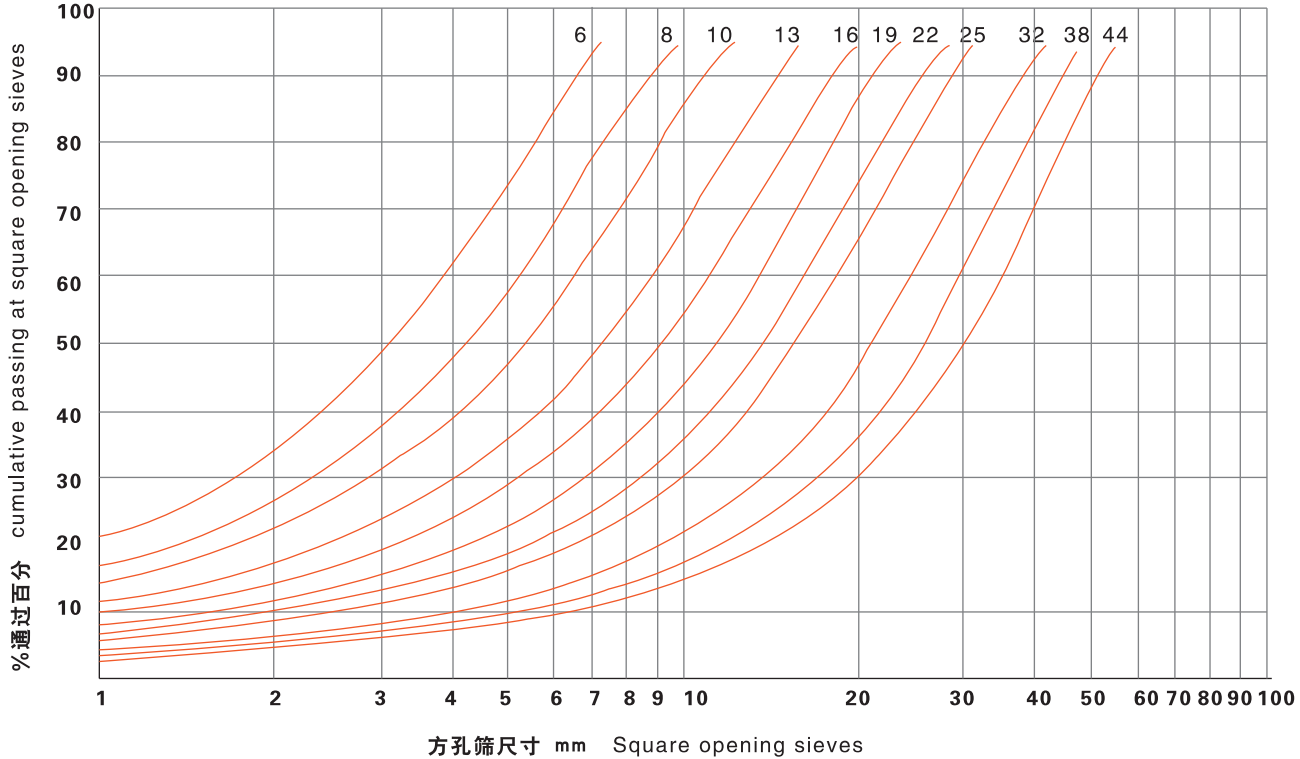
型号 Model	腔型 Cavity	最大进料尺寸 Maximum feeding size(mm)	最小排料口尺寸 Minimum discharging size(mm)	最大装机功率 Maximum installed power(kw)
HST100	S1(超粗) Extra Coarse	240	22	90
	S2(中粗) Medium Coarse	200	19	
	H1(细) Fine	135	10	
	H2(中细) Medium Fine	65	8	
	H3(超细) Extra Fine	38	4	
HST160	S1(超粗) Extra Coarse	360	25	160
	S2(中粗) Medium Coarse	300	22	
	S3(粗) Coarse	235	19	
	H1(细) Fine	185	13	
	H2(中细) Medium Fine	90	10	
	H3(超细) Extra Fine	50	6	
HST250	S1(超粗) Extra Coarse	450	35	250
	S2(中粗) Medium Coarse	400	29	
	S3(粗) Coarse	300	25	
	H1(细) Fine	215	16	
	H2(中细) Medium Fine	110	13	
	H3(超细) Extra Fine	70	8	
HST315	S1(超粗) Extra Coarse	560	41	315
	S2(中粗) Medium Coarse	500	38	
	H1(细) Fine	275	16	
	H2(中细) Medium Fine	135	16	
	H3(超细) Extra Fine	65	13	
HST520	H1(细) Fine	300	22	520
	H2(中细) Medium Fine	155	19	
	H3(超细) Extra Fine	80	10	
HST750	H1(细) Fine	370	25	750
	H2(中细) Medium Fine	195	22	
	H3(超细) Extra Fine	85	10	

表中给出的数据是基于松散度为1.6t/m3 的物料而言，实际结果根据给料的粒级、物料类型和含水量的不同会有差异。
Minimum discharging figures are indicative for materials with bulk density of 1.6 t/m3. Actual results may vary depending on the feed grading, rock type, moisture etc.

HST中碎粒度分布曲线 Secondary Cone Crusher Indicative Gradation Curves



HST细碎粒度分布曲线 Tertiary Cone Crusher Indicative Gradation Curves



生产能力

Indicative Crusher Capacities



表中给出的产量是基于松散度为1.6t/m3 的物料而言，实际结果根据给料的粒级、物料类型和含水量的不同会有差异。
Capacity and minimum setting figures are indicative for materials with bulk density of 1.6 t/m3. Actual results may vary depending on the feed grading, rock type, moisture etc.

HST系列中碎单缸液压圆锥破碎机 HST Series Secondary Cone Crusher

型号 Model	腔型 Cavity	紧边排料口尺寸(mm) Closed Side Setting															
		19	22	25	29	32	35	38	41	44	48	51	54	60	64	70	76
HST100	S1(超粗) Extra Coarse		85	90-115	100-160	105-170	110-145	115									
	S2(中粗) Medium Coarse	70	75-95	80-130	90-115	95											
HST160	S1(超粗) Extra Coarse			120	135-175	140-230	150-295	160-310	170-330	175-345	190-310	195-260	205				
	S2(中粗) Medium Coarse		105	115-145	125-200	130-255	140-270	145-285	155-305	165-265	175						
	S3(粗) Coarse	90	95-125	105-170	115-220	120-235	125-250	135-265	140-275	150-245	160						
HST250	S1(超粗) Extra Coarse						255	270-355	285-450	300-565	320-605	335-525	350-460				
	S2(中粗) Medium Coarse				215	230-300	245-385	260-485	270-515	285-450	305-400	300					
	S3(粗) Coarse			190	205-270	220-345	230-435	245-465	260-490	270-430	290-380	305					
HST315	S1(超粗) Extra Coarse								335	350-460	375-590	390-720	410-860	445-930	465-980	500-1050	535-985
	S2(中粗) Medium Coarse							305	320-420	340-620	360-755	375-790	395-825	425-895	450-825	480-635	

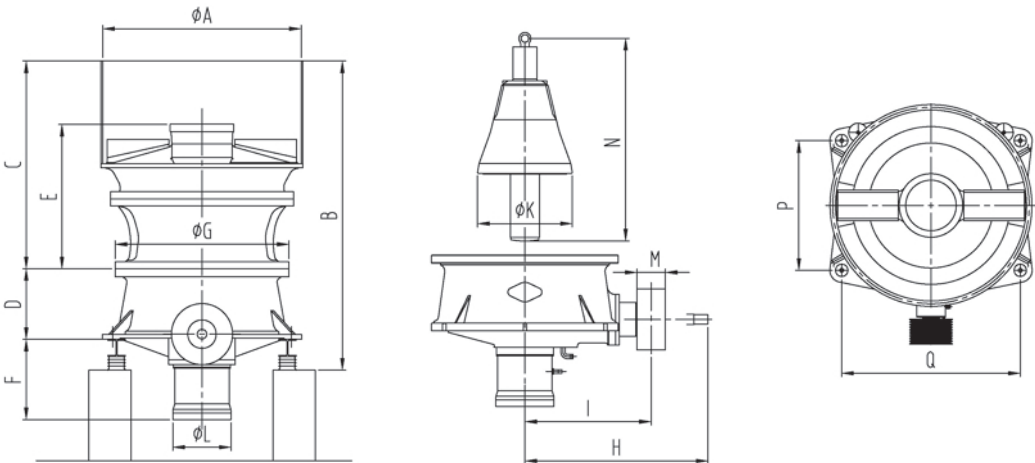
HST系列细碎单缸液压圆锥破碎机 HST Series Tertiary Cone Crusher

型号 Model	腔型 Cavity	紧边排料口尺寸(mm) Closed Side Setting															
		4	6	8	10	13	16	19	22	25	32	38	44	51	57	64	70
HST100	H1(细) Fine				45	50-85	52-95	58-100	60-105	63-115	75-130						
	H2(中细) Medium Fine			35-45	38-75	40-80	45-76	50-60									
	H3(超细) Extra Fine	27-35	30-50	31-55	32-60	35-50	38										
HST160	H1(细) Fine					66-110	75-150	80-165	85-175	90-185	100-210	110-210					
	H2(中细) Medium Fine				65-85	70-135	75-145	80-155	85-165	90-155	100						
	H3(超细) Extra Fine		48-80	50-85	53-90	56-100	60-104	65-105	70-95	75							
HST250	H1(细) Fine						110-200	120-280	125-295	135-315	155-360	170-395	185-385				
	H2(中细) Medium Fine					115-190	120-280	130-300	140-320	150-340	170-285	185					
	H3(超细) Extra Fine			90-135	95-180	100-195	110-210	115-225	125-240	135-255	150-210						
HST315	H1(细) Fine						170	185-340	195-440	210-465	235-550	260-605	285-665	315-515			
	H2(中细) Medium Fine						190-295	205-440	215-470	230-500	265-505	290-405					
	H3(超细) Extra Fine					205-295	220-320	235-300	250-290								
HST520	H1(细) Fine								430-590	455-850	520-970	575-1070	630-1175	690-1295	745-1395	810-1515	865-1335
	H2(中细) Medium Fine							380-565	410-790	435-840	495-955	545-1055	600-1155	660-1275	710-1375	770-1250	825-1100
	H3(超细) Extra Fine				270-405	290-405	315-560	335-600	360-640	380-640	435-775	480-730	525-670				
HST750	H1(细) Fine									460-640	520-1280	575-1415	630-1550	695-1705	750-1840	815-1995	870-2130
	H2(中细) Medium Fine								525-615	560-1045	640-1190	705-1315	770-1440	850-1590	915-1605	995-1395	1060
	H3(超细) Extra Fine				350-420	380-535	405-575	440-620	465-660	495-700	565-800	625-885	685-885	755			

外形尺寸

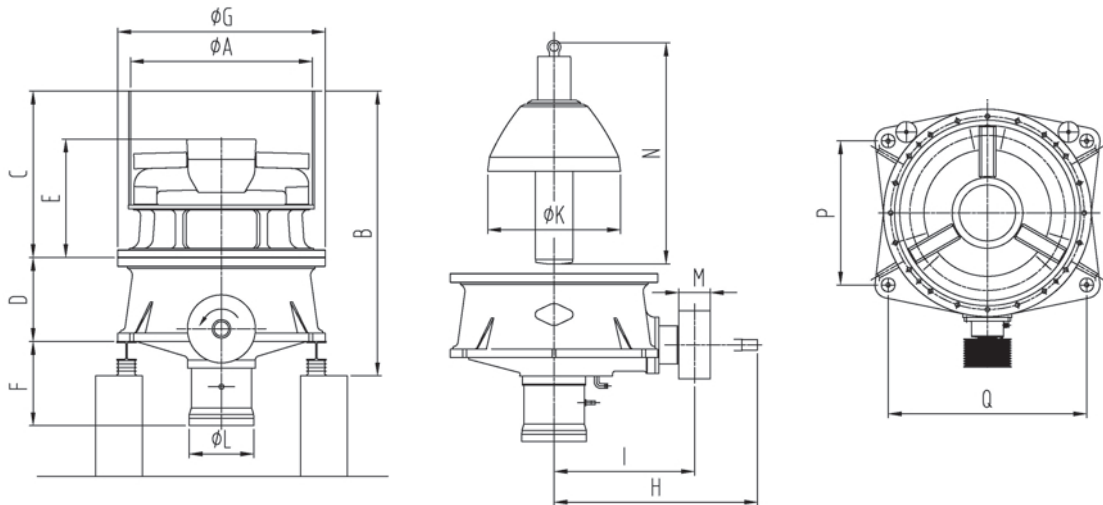
Dimensions

HST系列中碎单缸液压圆锥破碎机 HST Series Secondary Cone Crusher



尺寸 Dimensions	HST100	HST160	HST250	HST315
	S	S	S	S
A	1272	1635	2550	2942
B	2499	2630	3393	3925
C	1727	1705	2365	2644
D	550	665	755	890
E	1016	1263	1515	1830
F	751	670	820	945
G	1280	1550	1830	2200
H	1270	1705	1900	2156
I	843	1145	1270	1490
K	772	962	1102	1295
L	420	495	580	690
M	110.5	161.5	255	297
N	1680	2000	2402	2850
P	1090	1270	1350	1528
Q	1400	1676	1880	2103

HST系列细碎单缸液压圆锥破碎机 HST Series Tertiary Cone Crusher



尺寸 Dimensions	HST100	HST160	HST250	HST315	HST520	HST750
	H	H	H	H	H	H
A	1078	1372	1540	1954	2450	2660
B	1772	2190	2391	3066	3995	4711
C	1000	1262	1365	1755	2045	2400
D	550	665	755	890	1228	1186
E	718	910	1050	1255	1365	1600
F	751	670	820	945	1202	1719
G	1280	1550	1830	2200	2654	2882
H	1270	1705	1900	2156	2850	3100
I	843	1145	1270	1490	1824	2073
K	790	956	1135	1408	1635	1775
L	420	495	580	690	850	1022
M	110.5	161.5	255	297	350	400
N	1425	1710	2033	2350	3095	3545
P	1090	1270	1350	1528	3795	4450
Q	1400	1676	1880	2103	4391	5064