

# SYTECHS

MINERALS  
MINING TECHNOLOGY

**SYTECHS MINING TECHNOLOGY**



## **ST-C SERIES JAW CRUSHERS**

**North American Technology**  
**5 YEARS EXTENDED WARRANTY**

**BOLTED TYPE MAIN  
FRAME**

## JAW CRUSHER WORKING PRINCIPLE

The working principle of jaw crushers is based on the reciprocating movement of the movable jaw that compresses and crushes the rock or ore between itself and the fixed jaw, as the material enters the zone between the jaws.

## HOW DO YOU DETERMINE THE SIZE OF A JAW CRUSHER?

A Jaw Crusher is sized so that the maximum feed size is 80% of the gape and width openings. The gape is the measurement between the two jaw dies, while the width is the measurement between the two side plates. For example, if the maximum feed size is 29"x49", the crusher gape would be 32" and the width would be 54".



## SYTECHS ST-C SERIES JAW CRUSHERS

The Sytechs ST-C Series Jaw Crushers are ideally suitable for primary and secondary crushing applications. Every feature of these machines has been vigilantly designed to provide superior quality and performance. They are widely used for crushing various materials like stone, granite, trap rock, coke, coal, manganese ore, iron ore, emery, fused aluminum, oxide, fused calcium carbide, lime stone, quartzite, alloys, etc. These crushers are manufactured as per North American Design, standards and techniques at the Shenyang Plant in China. They are recommended by leading consultants in this field and are used by hundreds of customers all over the world.. All our products are ISO9001 Quality System and CE Certified. Our product is backed by comprehensive, worldwide after sales services and international product warranty (1year Standard Warranty while 3 years extended warranty is available (Optional)

### FEATURES

- High quality and reliability
- World-class craftsmanship and materials
- Modular, non welded construction (bolted type)
- Four equal size bearings that are larger than those of most crushers of comparable size
- Cast steel pitman and crusher frames
- Single-piece cast steel frame bearing housings
- Repairable crusher construction
- Low operating and installation costs:
- Soft Starting System
- Fast and safe wedge setting adjustment system
- Protection plates behind the jaw plates
- Rubber damper crusher mounting
- Versatile integral motor base
- Compact and service friendly flywheel guards
- Custom feed chute
- Automatic grease lubrication system
- Outstanding performance
- Efficient cavity designs
- Aggressive kinematics, long stroke, optimum speed
- Small allowed crusher settings
- The right jaws and cheek plates for the widest range of applications
- Used in a wide range of applications, both stationary and mobile
- Electric motor mounted on main frame-reduced vibration.
- Bolted Type Jaw design makes of each part of the main frame replaceable..

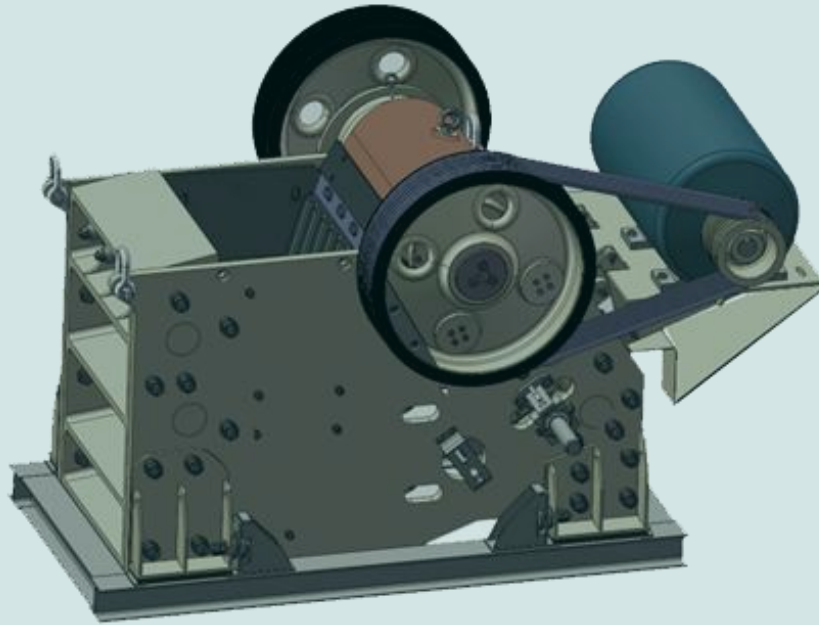
### APPLICATIONS:

- ✓ Aggregate
- ✓ Mining (surface and underground)
- ✓ Recycling( concrete, asphalt ,etc)
- ✓ Industrial (slag ,anodes, etc)



**BOLTED TYPE MAIN FRAME**





## MAJOR ADVANTAGES OF SYTECHS ST-C SERIES BOLTED TYPE JAW CRUSHERS

The Sytechs Bolted-type jaw crushers have several advantages over older welded or cast/molded designs. Here are some of the key advantages of bolted-type Metso jaw crushers over old welded or cast/molded types:

### 1. **Ease of Maintenance**:

- Bolted construction allows for easier access to components for maintenance and replacement, reducing downtime for maintenance tasks.
- Modular design facilitates quick and efficient replacement of wear parts and components.

### 2. **Safety**:

- Bolted construction provides a safer working environment for maintenance personnel, as it allows for better access to critical components without the need for cutting or welding.
- Enhanced safety features may be incorporated into the design of bolted-type crushers to minimize risks during maintenance activities.

### 3. **Reliability**:

- Bolted construction typically offers better structural integrity and durability compared to welded or cast/molded designs, leading to improved reliability and longer service life.
- The use of high-quality materials and modern engineering practices in bolted-type crushers can enhance overall reliability.

### 4. **Efficiency**:

- Bolted-type jaw crushers may offer improved crushing efficiency and performance due to optimized design features, such as the geometry of the crushing chamber and kinematics.
- Advanced technologies and innovations in bolted-type crushers can contribute to higher productivity and throughput.

### 5. **Flexibility**:

- Modular and adaptable design of bolted-type crushers allows for easier customization and adjustment to specific application requirements.
- Components can be easily replaced or upgraded to meet changing production demands or application needs.

### 6. **Transport and Installation**:

- Bolted construction facilitates easier transportation and assembly of the crusher compared to welded or cast/molded designs.
- Modular components can be disassembled for transportation and reassembled on-site, streamlining the installation process.

### 7. **Cost-Effectiveness**:

- While initial costs may vary, bolted-type crushers can offer long-term cost savings through reduced maintenance downtime, improved efficiency, and extended service life.

In traditional jaw crushers, the electric motor is often mounted adjacent to the jaw, with a belt and pulley system used to transfer power to the crusher. In contrast, in bolted-type jaw crushers like those offered by Sytechs, the electric motor is typically mounted on the main frame of the crusher itself. Here are some considerations regarding the mounting of the electric motor in bolted-type crushers compared to adjacent positioning near the jaw:

**\*\*Electric Motor Mounting on Main Frame (Bolted Type):\*\***

- \*\*Integration\*\*:** Mounting the electric motor on the main frame of the crusher in a bolted-type design can lead to a more integrated and compact overall structure. This integration can simplify the design and reduce the number of external components required for power transmission.
- \*\*Space Efficiency\*\*:** By mounting the motor on the main frame, space utilization can be optimized, potentially reducing the overall footprint of the crusher and making it more compact and easier to install in various settings.
- \*\*Alignment\*\*:** Mounting the electric motor on the main frame can help ensure proper alignment of the motor and crusher components, which is important for efficient power transmission and overall crusher performance.
- \*\*Maintenance\*\*:** Accessibility to the motor for maintenance and servicing may be improved when it is mounted on the main frame. This can make tasks such as motor inspections, repairs, and replacements more convenient.
- \*\*Balance and Stability\*\*:** Mounting the motor on the main frame can contribute to better balance and stability of the crusher, potentially reducing vibrations and enhancing overall operational performance.

Overall, Sytechs bolted-type jaw crushers offer a range of advantages over older welded or cast/molded designs in terms of maintenance, safety, reliability, efficiency, flexibility, ease of transport and installation, and cost-effectiveness. These advantages make them a preferred choice for many customers in the industry seeking modern and efficient crushing solutions.

## SYTECHS ST-C SERIES JAW CRUSHERS- TECHNICAL SPECIFICATIONS

MODEL		ST-C80X51	ST-C100X86	ST-C96X58	ST-C106X70	ST-C116X80	ST-C138X76	ST-C120X87	ST-C125X95	ST-C140X107	ST-C150X120	ST-C160X120	ST-C200X150
Feed Opening width mm (in)		800(32)	1000(40)	930(37)	1060(42)	1150(45)	1375(54)	1200(47)	1250(49)	1400(55)	1500(59)	1600(63)	2000(79)
Feed opening depth mm (in)		510(20)	760(30)	580(23)	700(28)	800(32)	760(30)	870(34)	950(37)	1070(42)	1200(47)	1200(47)	1500(59)
Power KW		75	110	90	110	132	150	160	160	200	225	260	400
Speed (rpm)		350	260	330	280	260	260	230	220	220	220	220	200
Product size mm	CST (mm)	MTPH	MTPH	MTPH	MTPH	MTPH	MTPH	MTPH	MTPH	MTPH	MTPH	MTPH	MTPH
0-30	20												
0-35	25												
0-45	30												
0-60	40	55-75											
0-75	50	65-95											
0-90	60	80-110		105-135									
0-105	70	95-135	125-175	125-155	150-185	165-205	210-270	175-240					
0-120	80	110-150	145-200	140-180	165-215	180-235	240-300	195-270					
0-135	90	125-175	160-220	160-200	190-235	205-255	260-330	210-305					
0-150	100	140-190	180-250	175-225	205-265	225-285	285-365	235-325	245-335				
0-185	125	175-245	220-310	220-280	255-325	270-345	345-435	285-395	295-405	325-445	340-470		
0-225	150	210-290	265-365	265-335	305-385	320-405	405-515	340-475	345-475	380-530	400-555	430-610	
0-260	175	245-335	310-430	310-390	355-450	370-465	465-595	385-540	395-545	435-605	460-635	495-695	630-890
0-300	200		355-490		395-500	410-520	530-670		445-615	495-685	520-720	560-790	710-1000
0-340	225								495-685	550-760	580-800	625-880	785-1105
0-375	250								545-755	610-840	640-880	685-965	865-1215
0-410	275											745-1055	940-1320
0-450	300											815-1145	1015-1435

The ST- C Series jaw crushers are based on pinned and bolted, non-welded frame construction. This design principle contributes to their excellent fatigue life and strength, This, combined with high-quality steel casting design and large size spherical roller bearings, delivers the reliability that ST-C Series jaw crushers are known for.



The ST- C Serie jaw crushers are designed to handle the toughest feed materials in the primary crushing stage. They have proven their performance in applications including mining, quarrying, recycling and industrial minerals. They have the highest power ratings in each size class thanks to their strong pinned and bolted frame, making them ideal for stationary, underground and mobile crushing applications.

The Swing jaw is made of cast steel. Swing jaw plate is fastened onto the swing jaw by means of wedge. Two jaw plates can be used interchangeably while a single design jaw plate can be offered on request . The Swing jaw is suspended in the middle of eccentric shaft by two main bearings and is suspended into the cavity of main frame. Two bearing housings are installed on the both sides of the main frame symmetrically. Eccentric shaft is supported on both sides of frame by bearings.

The Eccentric shaft is made of forged alloy steel. Fly wheel and pulley are fixed on the conical surface of eccentric shaft by keys. The fly wheel and pulley are fixed at each end of eccentric shaft by means of washers and keys to prevent axial movement. The Toggle is made of cast iron. The front end of the toggle is supported on the die block which is under the swing jaw; the back end of the toggle supports on the die block of back pedestal.





## EXTENDED WARRANTY POLICY (OPTIONAL) NEW MACHINES & PARTS

### Equipment Protection Services

As part of Sytechs Life Cycle Services for Aggregates, Equipment Protection Services (EPS) brings you added protection for your most valuable assets, fixed or mobile. This comprehensive plan includes extended warranties, scheduled inspections with Sytechs -certified technicians and Sytechs Metrics Services, our remote monitoring and data visualization solution.

### The challenge: managing risks under demanding conditions

In the field, anything can happen. And when you're managing a fleet of mobile crushing equipment often spread out in remote areas or even around the world, maintaining optimal performance for each unit can prove challenging. With new equipment, the likelihood of unexpected failures is low and any required corrective work is likely covered under warranty. Beyond the standard warranty period however, equipment may fail if unsuitable parts are used or the equipment is not maintained in an optimal way.

### The solution: Equipment Protection Services

#### On-site machine inspections and extended warranty under a single plan

Equipment Protection Services (EPS) gives you confidence in your cost structure by anticipating and minimizing unexpected equipment failures. Along with extended warranties that cover repairs or replacements on key designated parts that need to be replaced, this plan also includes comprehensive inspections and other services to keep your equipment running smoothly at all stages of operation.

What we do: Protection starts with prevention

1. Thorough field inspections with certified Sytechs technicians every 1,000 operating hours
2. Full-service reports on your equipment's condition
3. Technicians identify preventive and/or correction actions and provide recommendations
4. Extended protection plan of 5 years or 10,000 hours for designated major components

Extended warranty to 10,000 hours or 5 years for specified major components on designated equipment

Scheduled inspections with Sytechs-trained and certified technicians, coupled with parts recommendation

Maintenance planning and reporting through our Remote Diagnostic solution,





### **SYTECHS PRODUCT SUPPORT**

From the Design point, to Manufacturing, Shipment, Installation, Commissioning & Training in addition to After Sales service, Sytechs Minerals is committed to provide First Class Services anywhere in the world. Our After sales service includes but not limited to on site technical support or through our online Diagnostic system.



**ISO 9001  
QUALITY SYSTEM  
CERTIFIED**

**Manufactured as per North American  
Design and Specifications,  
Under License of Sytechs Minerals NA**

**Form: SCC4548-2411**

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