



JAW CRUSHERS

Applications Across Industries

Our jaw crushers are suitable for various materials, including:

- **Mining & Metallurgy:** ores, coal, slag, coke, niobium, titanium alloys, vanadium iron, chrome vanadium, tungsten carbide
- **Chemical Industry:** pre-treatment of chemical raw materials for further analysis
- **Geology & Mineralogy:** rocks, granite, basalt, barite, silicates
- **Ceramics:** talc, sintered clay, electric ceramics
- **Construction Materials:** bauxite, quartz, cement, slag bricks

JAW CRUSHERS

Working Principle of Jaw Crushers

All Torontech jaw crushers operate based on a wedge-shaped crushing chamber. Samples are fed through an anti-splash hopper into the chamber. One jaw remains fixed, while the other is driven by a curved axle, moving in an elliptical pattern powered by a continuously rotating motor.

This motion creates a strong squeezing force, reducing sample size efficiently. Once the material reaches a size smaller than the discharge gap, it falls into a secure collection drawer.

This design ensures:

- Consistent size reduction
- Gravity-assisted discharge
- Minimal sample contamination
- Easy cleanup and operation

Frequently Asked Questions (FAQ) - Jaw Crushers

What is a Jaw Crusher?

A jaw crusher is a mechanical device used for crushing hard, brittle, and tough materials. It operates by compressing material between a fixed jaw and a moving jaw, forming a V-shaped chamber. As the moving jaw exerts force on the material, it breaks into smaller pieces, which then fall through the discharge opening.

What is a jaw crusher used for?

A jaw crusher is used for the primary size reduction of hard, brittle, and tough materials. It is commonly used in laboratories, mining, metallurgy, geology, ceramics, chemicals, and construction industries. Jaw crushers break down large samples into smaller pieces for further analysis or processing.

What are the advantages of a jaw crusher?

- High crushing efficiency
- Wide material compatibility (ores, ceramics, slag, coal, etc.)
- Simple structure with easy maintenance
- Available in both desktop and floor-standing models
- Adjustable gap for precise final fineness
- Multiple jaw plate material options to reduce contamination

What are the disadvantages of a jaw crusher?

- Not suitable for very soft or sticky materials
- Produces more dust compared to other crushers
- Final particle size may require secondary milling
- Larger models require more space and installation setup

How do I select the right jaw crusher model?

Choose based on:

- Feed size and final fineness requirements
- Sample type (hardness, abrasiveness)
- Throughput capacity
- Space constraints (desktop vs. floor models)
- Contamination concerns (jaw plate material options)

Compare Jaw Crusher Models

Side-by-side overview of Torontech laboratory jaw crushers for primary size reduction of hard, brittle, and tough materials across mining, geology, ceramics, chemicals, and construction workflows.

Torontech Jaw Crushers

Feature	Jaw Crusher JC7	Jaw Crusher JC6	Jaw Crusher JC5
Primary purpose	Primary crushing for hard, brittle, and tough materials with efficient size reduction	Primary crushing for lab sample preparation with reliable, repeatable output	Primary size reduction for routine lab workflows and sample prep

Feature	Jaw Crusher JC7	Jaw Crusher JC6	Jaw Crusher JC5
Best for	Labs needing strong crushing performance for demanding materials and frequent use	General lab crushing where balanced throughput and control are needed	Routine sample preparation where a practical primary crusher is required
Typical industries	Mining & metallurgy, geology, ceramics, chemicals, construction materials	Mining & metallurgy, geology, mineralogy, chemical pretreatment, ceramics	Geology & mineralogy, chemicals, ceramics, construction materials
Compatible materials	Ores, coal, slag, coke, rocks, granite, basalt, quartz, ceramics (application dependent)	Hard and brittle lab materials needing primary reduction (application dependent)	Hard / brittle samples for routine primary crushing (application dependent)
Typical role in workflow	Primary crusher before secondary milling or fine grinding	Primary crusher to bring large samples into manageable size for downstream steps	Entry-level or routine primary crushing step before finer processing
Key advantages	Efficient size reduction, adjustable discharge gap, minimal contamination options	Reliable operation, adjustable gap for target fineness, easy cleanup	Simple operation, broad material compatibility, good for recurring lab use
Contamination control	Jaw plate material options available to reduce contamination (workflow dependent)	Jaw plate options help align with analysis requirements (workflow dependent)	Jaw plate options support different sample types and contamination needs

Feature	Jaw Crusher JC7	Jaw Crusher JC6	Jaw Crusher JC5
How to choose	Choose when you need the highest performance option for demanding materials or higher usage	Choose when you want a balanced model for general lab crushing and repeatable results	Choose when you need a dependable primary crusher for routine sample prep
Selection tip	If your materials are harder, more abrasive, or your throughput needs are higher, start here	If you want a solid all-rounder for typical lab workflows, this is a safe choice	If you are setting up basic sample prep or have moderate volume, this is a practical baseline

FEATURES

1. Wedge-Shaped Crushing Chamber

A fixed jaw and a moving jaw form a wedge-shaped chamber that squeezes material with strong, repeatable force for efficient size reduction.

2. Adjustable Discharge Gap

The gap between the jaws sets the final particle size. Adjusting it lets one crusher produce a range of output sizes from a single feed.

3. Hard and Brittle Material Capability

The crusher handles tough samples such as ores, rock, slag, ceramics, and refractory materials, which makes it suitable for mining, geology, and construction labs.

4. Anti-Splash Hopper and Collection Drawer

An enclosed feed hopper and a secure collection drawer keep crushed material contained, which reduces sample loss and

keeps the workspace clean.

5. Low-Contamination Jaw Plates

Wear-resistant jaw plate options, such as manganese steel or tungsten carbide, support long service life and limit contamination of sensitive samples.

6. Continuous-Duty Drive

A continuously rotating motor drives the moving jaw through a curved axle, delivering steady throughput for routine sample preparation.



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