

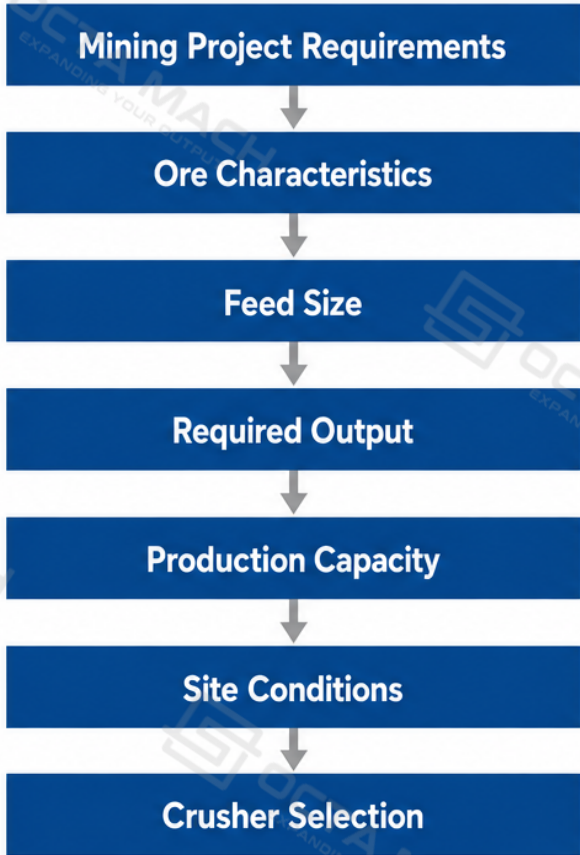
Crushing Equipment Selection Guide for African Mining Projects

Equipment considerations for remote sites, small-scale mines, and expanding mineral operations



Key Factors Affecting Crushing Equipment Selection

Crusher selection should be based on material behavior, production objectives, and project conditions.



Selection Factor	Engineering Consideration
Ore Characteristics	Hardness and abrasiveness influence crusher selection.
Feed Size	Determines required crusher opening and reduction stage.
Required Output	Defines target particle size after crushing.
Production Capacity	Affects equipment size and system design.
Site Conditions	Influences transportation, installation, and operation planning.

Crushing Equipment Selection by Mining Stage

Different project stages often require different levels of crushing equipment.

1



Exploration / Pilot Production

Compact crushing equipment for initial material reduction

2



Small-Scale Mining

Primary jaw crushing for regular production

3



Mine Expansion

Higher-capacity crushing equipment with additional stages

4



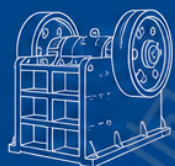
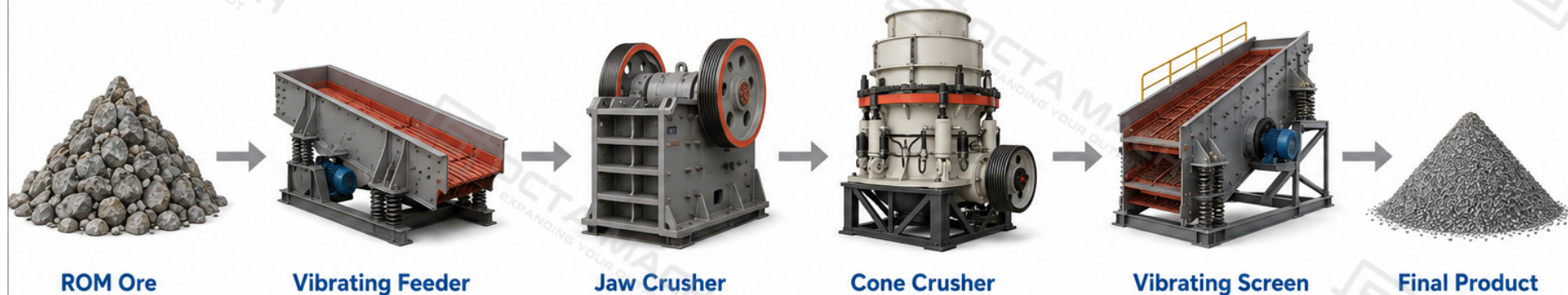
Large Processing Operation

Complete crushing and screening systems

Mining Stage	Equipment Consideration
1 Exploration / Pilot Production	Use compact, portable crushing equipment for initial material reduction and testing. A Mini Jaw Crusher can be an effective option for small volumes and limited space, if appropriate.
2 Small-Scale Mining	Implement a primary jaw crusher to handle regular feed and deliver consistent, reliable performance.
3 Mine Expansion	Add secondary and/or tertiary crushing stages to increase throughput and improve product sizing. Prioritize capacity, maintainability, and flexibility for future growth.
4 Large Processing Operation	Deploy integrated crushing and screening systems for continuous, high-volume operations. Focus on system efficiency, redundancy, and ease of maintenance.

Typical Hard Rock Crushing Process

A typical hard-rock circuit uses staged crushing followed by size classification.



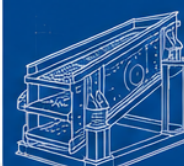
Primary Crushing

Jaw Crusher reduces large feed material.



Secondary Crushing

Cone Crusher provides further size reduction.



Screening

Vibrating Screen separates material according to required size.

Remote Mining Site Considerations

Site access and operating conditions can directly affect equipment planning.

Project Consideration	Why It Matters
 Transportation	Equipment dimensions affect delivery planning.
 Installation Conditions	Site preparation influences commissioning.
 Maintenance Access	Wear parts and service requirements affect operation.
 Future Expansion	Initial equipment selection should consider production growth.



Crushing Equipment Selection Checklist

Before selecting equipment, confirm the main technical and project inputs.

☐ Ore type and material characteristics

☐ Maximum feed size

☐ Required output size

☐ Target production capacity

☐ Site access and installation conditions

☐ Maintenance requirements

☐ Future expansion plans



Proper equipment selection starts with understanding the material, production requirements, and project conditions.

