

Selection Overview

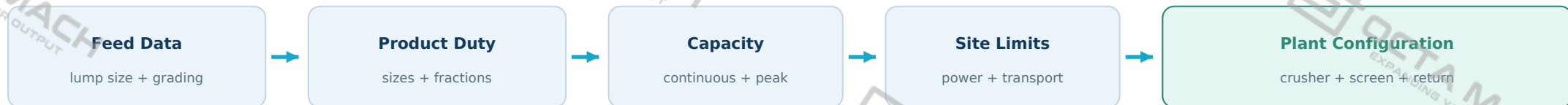
Selection starts with duty - not headline price or motor power



WHAT MUST BE MATCHED

- 1 Feed** Maximum lump and full size distribution
- 2 Duty** Secondary or tertiary hard-rock crushing
- 3 Output** Continuous t/h and required product sizes
- 4 Circuit** Open circuit or screened return load
- 5 Site** Power, access, transport and relocation

Selection Relationship



Initial Decision Gates

FEED ACCEPTANCE

Largest particle must fit the selected chamber; verify upstream jaw-crusher discharge.

PROCESS CAPACITY

State continuous throughput under expected rock and moisture conditions, not only peak feed.

PRODUCT CONTROL

Tighter top-size control or several fractions normally requires screening and possible return.

MOBILITY VALUE

Confirm that relocation frequency and reduced haulage justify a mobile rather than stationary plant.

Key Selection Factors



WHY FEED DATA COMES FIRST

A cone crusher should receive controlled, pre-crushed material. Maximum feed size establishes chamber acceptance, while the complete feed distribution affects chamber loading, reduction, power stability and liner wear.

Required upstream information

Primary crusher model and setting | maximum lump | feed-size distribution | fines content | moisture and clay | bulk density | feed rate variation

Do not infer suitability from capacity alone

Selection Factor Review

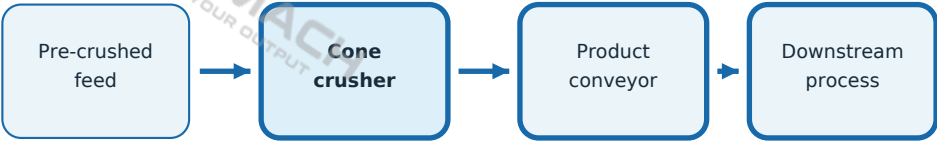
Selection factor	Why it matters	Engineering review
Material hardness	Determines crushing resistance and power demand.	Confirm rock type; use test data where variability is high.
Abrasiveness	Influences mantle, concave and conveyor wear.	Review mineralogy and expected wear-part strategy.
Maximum feed size	Sets the minimum acceptable chamber opening.	Check every lump against the selected chamber limit.
Feed-size distribution	Affects chamber loading, capacity and product shape.	Provide a sieve analysis, not only one maximum size.
Required capacity	Defines plant throughput and interface sizing.	Use continuous duty; record peak rate separately.
Final product sizes	Drives CSS, chamber profile and screen aperture.	State each required fraction and permitted oversize.
Crushing stage	Separates secondary from finer tertiary duty.	Define upstream discharge and downstream process.
Moisture / clay	May reduce screening efficiency and cause buildup.	Review actual seasonal feed, not dry rock only.

FEED CONDITION CHECKPOINT If maximum size, grading, moisture or clay content is unknown, selection remains provisional. Request representative feed data before fixing chamber, CSS, screen area or guaranteed capacity.

Circuit Selection

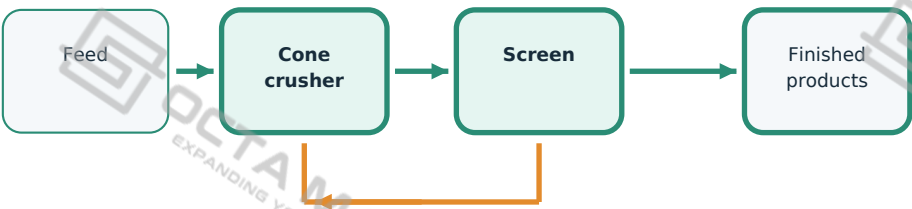
Material Flow

OPEN CIRCUIT



Use when screening is separate, the cone crusher prepares feed for another process, or strict final top-size control is not required at this unit.

CLOSED CIRCUIT



Crusher, screen and conveyors must handle total circulating flow.



Selection Comparison

Review point	Open circuit	Closed circuit
Final size control	Depends on downstream screen	Integrated screen rejects oversize
Return load	None at this unit	Must be included in equipment sizing
Plant complexity	Lower	Higher: screen + return conveyor
Best fit	Intermediate product / separate screening	Controlled top size / graded products

Closed-Circuit Review

SCREEN AREA

Base screen duty on total feed, including returned oversize.

APERTURE

Match each deck to required product sizes and permitted oversize.

RETURN LOAD

Allow for feed grading, CSS and screen efficiency.

CONVEYORS

Check belt width, transfer points and surge capacity.

Final Project Confirmation



FINAL SELECTION SEQUENCE

- 01

Confirm feed

Material, lump size, grading, moisture and clay
- 02

Define duty

Secondary/tertiary stage, capacity and product sizes
- 03

Select circuit

Open circuit or screen-equipped closed circuit
- 04

Verify interfaces

Power, conveyors, road access and relocation

Project Confirmation Checklist

Information group	Data to confirm	Recommended evidence
Material	Rock / ore type; hardness; abrasiveness	Test report or representative description
Feed	Maximum size; full grading; fines; moisture; clay	Sieve analysis and upstream crusher discharge
Production	Continuous t/h; peak rate; hours per day	Normal and peak operating basis
Products	Required sizes; number of fractions; oversize limit	Product specification or screen apertures
Circuit	Secondary/tertiary; open/closed; downstream unit	Process flow diagram or equipment list
Utilities	Voltage; frequency; power arrangement; altitude	Confirmed site electrical and ambient data
Mobility	Crawler/wheel; relocation frequency; ground condition	Travel path and operating area
Transport	Road width; height/weight limits; bridge clearance	Local legal and route review
Supply scope	Wear/spare parts; installation; commissioning; documents	Commercial and technical scope list

SELECTION LIMIT

Do not select only by advertised capacity, purchase price or motor power. Review chamber acceptance, feed grading, rock properties, screen efficiency, circulating load, transport envelope and the complete supply scope together.