# Products at a glance...


HIMALI # 93282 79679

***Jaw Crushers are tough machines designed to crush even very hard materials. Salient features of these crushers :***

- *Double Toggle oil lubricated type with **"Crushing without Rubbing"** actions.*
- *Robust Construction*
- *Stress relieved body and swing Jaw.*

***Various Applications***

- *Basalt, Granite etc.*
- *Iron Ore*
- *Ferro Alloys*
- *Quartz / Feldspar / Dolomite etc.*
- *Glass/Cullet*

**Manufacturers of:**

- Jaw Crushers
- Impactors
- Hammer Mills
- V.S.I.
- Grizzly Feeders
- Vibrating Screens
- Double Roll Crusher
- Complete Turnkey Plants

# Jaw Crusher


PERFECTION IN SIZE REDUCTION TECHNOLOGY


**ECOMAN**

D1/D2, Vishwamitridham, Behind Railway Colony, Vishwamitri, Vadodara - 390 011.

**Ph. : 0265-2661846/2660401 • Fax : 0265-2661297**

E-mail : info@ecomanindia.com Website : www.ecomanindia.com


## The Inside Story.....

01. Hinge pin is on crushing chamber centerline for crushing without rubbing, Large bearings and integral lubrication
02. Wide entry throat ensures easy feeding to crushing chamber
03. swing jaw is balanced to avoid power losses through lifting on crushing stroke
04. A light small diameter flywheel is all that is necessary with the low inertia of the mechanism
05. Operating mechanism is totally enclosed for maximum life and minimum maintenance
06. Pull back and toggle lifter springs automatically compensate for wear
07. Light weight pitman is always in compression and bears directly on the underside of the eccentric
08. All adjustments are carried out on the fixed jaw to avoid disturbing the crushing geometry

# JAW CRUSHER

CAPACITY ↑ POWER ↑ FEED

| OVERALL DIMENSIONS | | | FEED - POWER | | CAPACITIES (THTOUGHPUT) TONS PER HOUR CRUSHER SETTING (CLOSE SIDE) IN INCH/MM | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| LENGTH IN MM | HEIGHT IN MM | WIDTH IN MM | JAW CRUSHER SIZE INCH MM | MAX. FEED SIZE mm | MOTOR HP 1440 RPM | 3/4" 20 MM | 1" 25 MM | 1.1/2" 32 MM | 2" 50 MM | 2.1/2" 65 MM | 3" 75 MM | 3.1/2" 90 MM | 4" 100 MM | 5" 125 MM | 6" 150 MM | 7" 180 MM | 8" 200 MM | 9" 230 MM | 10" 250 MM | 11" 280 MM |
| 1750 | 1080 | 695 | 12" x 07" 300x175 | 125 | 15 | 8 | 9 | 9 | 13 | 16 | | | | | | | | | | |
| 1860 | 1300 | 970 | 16" x 09" 400x175 | 175 | 25 | | 12 | 15 | 18 | 23 | 28 | | | | | | | | | |
| 2120 | 1520 | 1070 | 20" x 12" 500x300 | 200 | 30 | | 12 | 16 | 20 | 25 | 32 | | | | | | | | | |
| 2295 | 1691 | 1510 | 25" x 14" 600x300 | 250 | 30 | | | | 28 | 35 | 40 | 45 | | | | | | | | |
| 2170 | 1160 | 1353 | 30" x 09" 750x225 | 115 | 30 | 18 | 20 | 25 | 28 | 33 | | | | | | | | | | |
| 2300 | 1630 | 1338 | 30" x 15" 750x375 | 300 | 40 | | | | | 42 | 48 | 63 | 72 | 82 | | | | | | |
| 2300 | 1730 | 1338 | 30" x 20" 750x500 | 400 | 50 | | | | | 42 | 52 | 62 | 73 | 87 | 112 | | | | | |
| 2200 | 1330 | 1605 | 36" x 08" 900x200 | 115 | 50 | 25 | 29 | 33 | 37 | 43 | | | | | | | | | | |
| 2800 | 2370 | 1605 | 36" x 24" 900x600 | 500 | 75 | | | | | | | 98 | 112 | 128 | 152 | | | | | |
| 2666 | 1755 | 1400 | 42" x 10" 1050x150 | 115 | 75 | 33 | 37 | 42 | 46 | 52 | | | | | | | | | | |
| 3000 | 1820 | 2670 | 42" x 24" 1050x600 | 500 | 120 | | | | | | 115 | 125 | 130 | 138 | 155 | 178 | 195 | 205 | 225 | 235 |
| 3360 | 2820 | 1820 | 42" x 30" 1050x750 | 650 | 150 | | | | | | | 135 | 140 | 145 | 170 | 185 | 200 | 220 | 232 | 240 |
| 2830 | 1793 | 1850 | 48" x 12" 1200x300 | 200 | 100 | | 60 | 65 | 70 | 80 | 100 | 110 | 115 | 120 | | | | | | |
| 3550 | 4505 | 2717 | 60" x 48" 1500x1200 | 1000 | 200 | | | | | | | | | | | 350 | 405 | 460 | 510 | 520 |

Capacities are based on crushing average hard rock with a bulk density of 1600 Kg. per cubic metre and intended as a guide only. Capacities can vary depending on the rock characteristics, feed size and feed arrangements.

# Our Experience Your Guidance

01. The recommended Feed size means the optimum size to be fed into the crusher. Every care should be taken to avoid bigger pieces going to the Crusher mouth. Many times it blocks the mouth necessitating stoppage of the plant

02. The above does not mean that only pieces of the recommended size, and not even a little smaller, should be fed. On the contrary if all the pieces are of the small size, there will be too many voids in the crushing zone, and as a result, the throughput will be less. This is exactly what happens if scalping Grizzly is provided before primary crusher.

03. The throughput will not increase by feeding a high proportion of pieces much smaller than the recommended feed size. On the contrary, if this is done, hardly any crushing will take place in the upper portion of the crushing zone, though the crusher mouth may appear to be full.

04. A mixed feed gives the best results; Voids are reduced, better crushing zone, a higher output is expected. A mixed feed means pieces of varying sizes, but not bigger than recommended feed size, and not smaller than the jaw setting (i.e. in the closed position)

05. The gape is the longest distance between the two jaws, i.e. the crushing surface

06. Normally, the ratio of gape to jaw setting is 5:1 to 7:1 It is not desirable to go beyond this ratio by further reducing the jaw setting. Otherwise, the unnecessarily high proportion of fines & throughput, will be much less than the capacity of the crusher. Also, in cases of aggregate manufacturing plant, ratio to be restricted to 1:3

07. Material should be fed along the complete portion of the jaw plate to ensure capacity and uniform wear and tear.

08. Free crushing: the crushed product including the fines, passes out of the crushing zone more quickly.

09. Choke feeding is the opposite of free crushing, it increases the proportion of fines.

10. Normally, the ratio of width to gape of the jaws is 1:1:6 in the case of primary crusher, and 1:4 to 1:7 in the case of secondary crusher and tertiary crusher

11. The angle of nip ranges between 15 degrees to 20 degrees for hard rocks, and 18 degrees to 24 degrees for soft rocks.

12. Crusher stroke varies between 15-25 mm.

13. The lower portion of the jaw plate wears out faster than the upper portion.

14. To get an idea of the throughput, multiply the width (in inches) of the jaws by the jaws by the jaws setting (in inches) in the open position, the approximate throughput ( in tones/hr) will be 60% of the product of these two dimensions. For example, on the basis of 100lbs per cu. Ft. density, the approx. throughput of a 16" X 9: jaw crusher at a jaw setting of 1" ( in open position) will be 60% of 16x1 =9.6 tones/hour

15. Jaw crusher do not need, regulated feed, as the crusher will consume material as per its capacity and material will remain in the chute, without disturbing the functioning of the crusher.

16. Selection of size of primary Crusher should be as per the shovel size, level of capacity blasting technique, and nature of stone. It should not be based on capacity of the plant. Its selection should be on the maximum size, picked up by shovel

## PRIMARY CRUSHERS

| Size (m.m. X m.m.) | | | Ratio |
|---|---|---|---|
| Width | | gape | Width / gape |
| 1500 | X | 1200 | 1.25 |
| 1050 | X | 750 | 1.40 |
| 900 | X | 600 | 1.50 |
| 750 | X | 500 | 1.50 |

## SECONDARY CRUSHERS

| Size (m.m. X m.m.) | | | Ratio |
|---|---|---|---|
| Width | | gape | Width / gape |
| 750 | X | 225 | 3.35 |
| 900 | X | 200 | 4.50 |
| 1050 | X | 250 | 4.20 |
| 1200 | X | 300 | 4.00 |