

HAMMER MILLS

(REVERSIBLE - OPEN BOTTOM)



MANUFACTURERS OF

Jaw Crushers | Impactors | Vertical Shaft Impactors | Hammer Mills | Ball Mills | Vibrating Screens
Single Roll Crushers | Toothed Roll Crushers | Conveyers | Feeders & Complete Turnkey Plants



D1/D2, Vishwamitridham Society, B/h. Railway Colony,
Vishwamitri, Vadodara - 390 011. Gujarat. INDIA.
Ph. : 0265-2661846 | 2662456 | 2660401
Fax : 0265-2661297 | E-mail : info@ecomaindia.com

Unit I : 906/4, Makarpura G.I.D.C., Vadodara-390 010.
Unit II : 912/B, Makarpura G.I.D.C., Vadodara-390 010.

Website : www.ecomanindia.com
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Hammer Mills

Application :

Ecoman's Hammer Mills are manufactured in three main series, namely

- 3000 Heavy
- 4000 Medium
- 1200 Light

Depending upon the size of feed & toughness of material, friability etc. A particular series-machine is selected.

3000 : Bigger feed size, tougher materials like limestone, Ironore, Dolomite

4000 : Comparatively smaller feed size & softer material like soft limestone, chalk, Gypsum etc.

1200 : Small Feed size, for friable material like coal, coke, limestone etc.

Above, all Hammer mills are reversible & open bottom type, But we also manufacture Non-reversible, Hammer mills, type 2500.

Description :

When the feeding stock enters the beating circle of the rotor it is caught by the beater heads and hurled against the impact wall by a series of impacts in quick succession and thus coarse crushing is effected by the crushing effect of the impact.

The following secondary crushing is effected in the lower part between rotor and impacting area. The beater arms with replaceable beater heads are loosely suspended on the circumference of the rotor. When they have attained full peripheral speed they are in radial position.

Due to the flexible suspension of the beater arms the impact crusher is rather insensitive to the penetration of foreign material (like metals).

Working diameter and width of the rotor are determined according to the specific requirements.

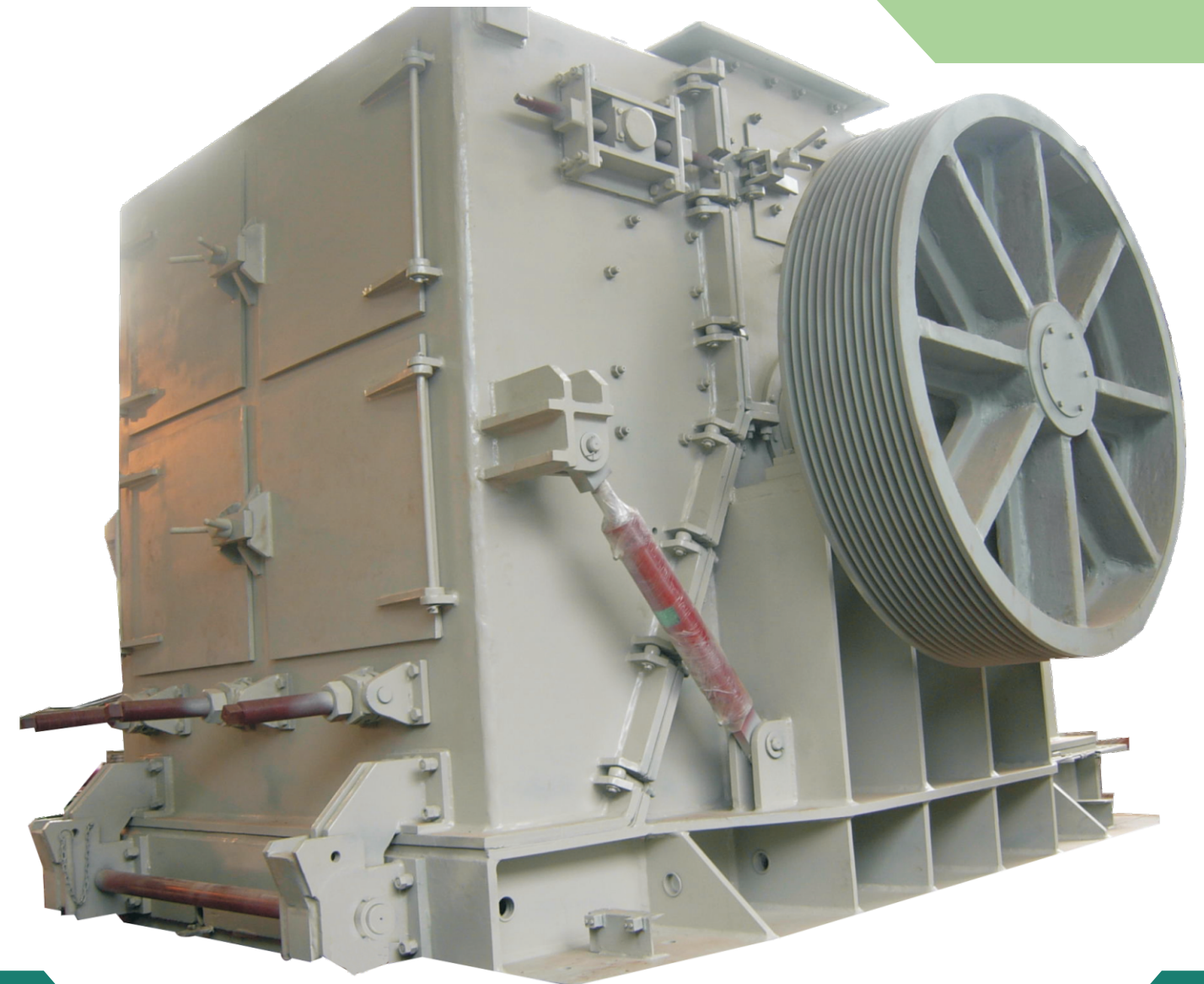
The required grain size can be modified by co-ordinating and adjusting the grinding wall towards the beating circle of the rotor at inlet and outlet and the peripheral speed respectively.

Ease of maintenance :

The impact crusher housings are equipped with largely dimensioned inspection flaps allowing at any time a quick inspection of the impact crusher condition inside the machine.

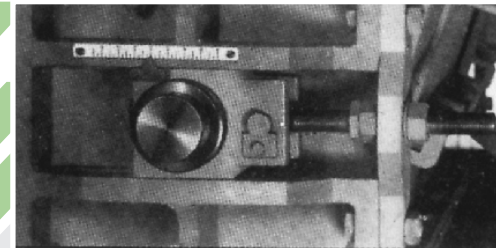
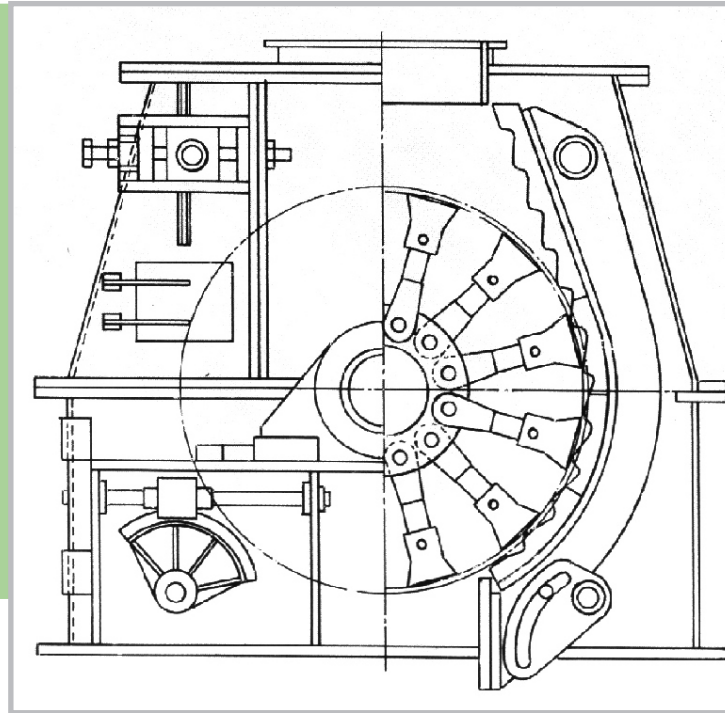
The housing of the impact crusher is divided and can be opened hydraulically or mechanically by spindles on the left and right side of the rotor. Thus all wearing parts (beater heads, beater arms and components of the impact wall) become accessible and may be easily replaced.

Hammer Mills

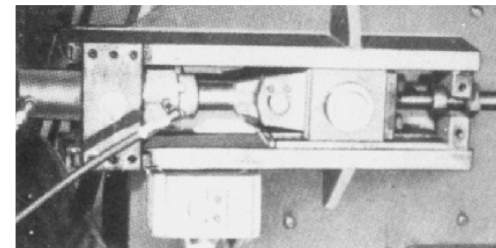


HAMMER MILLS

Standard design with mechanical adjustment of the grinding walls.



upper mechanical adjustment



upper hydraulic adjustment

REVERSIBLE HAMMER MILL

Open Bottom Type 3000

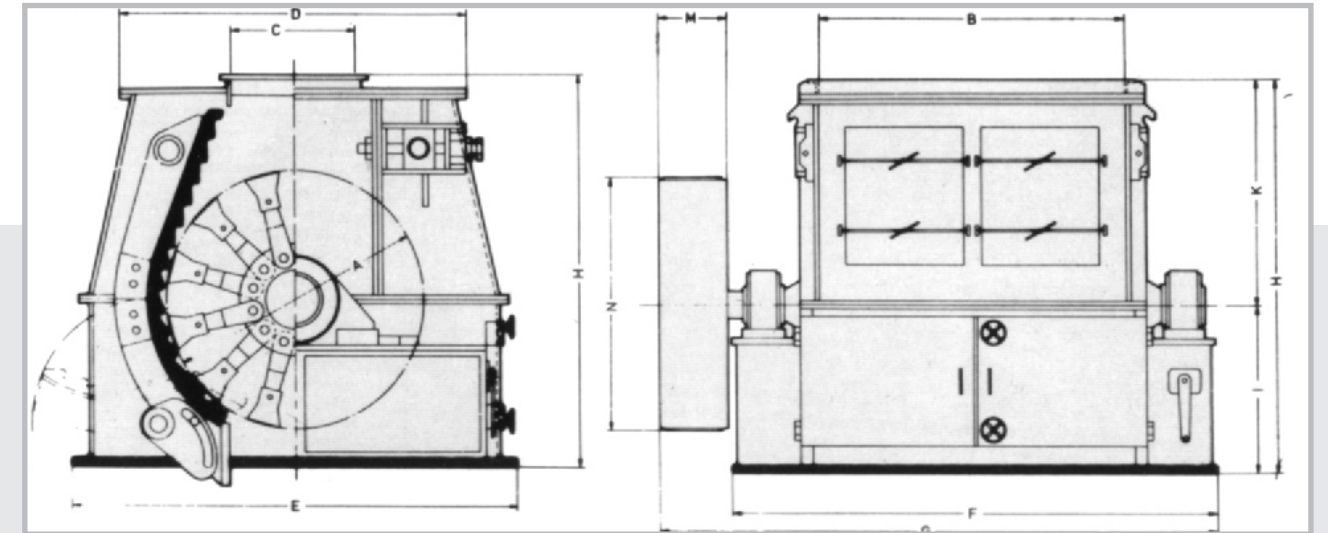
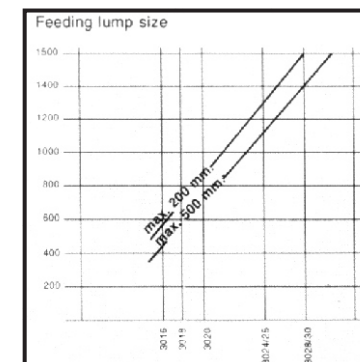
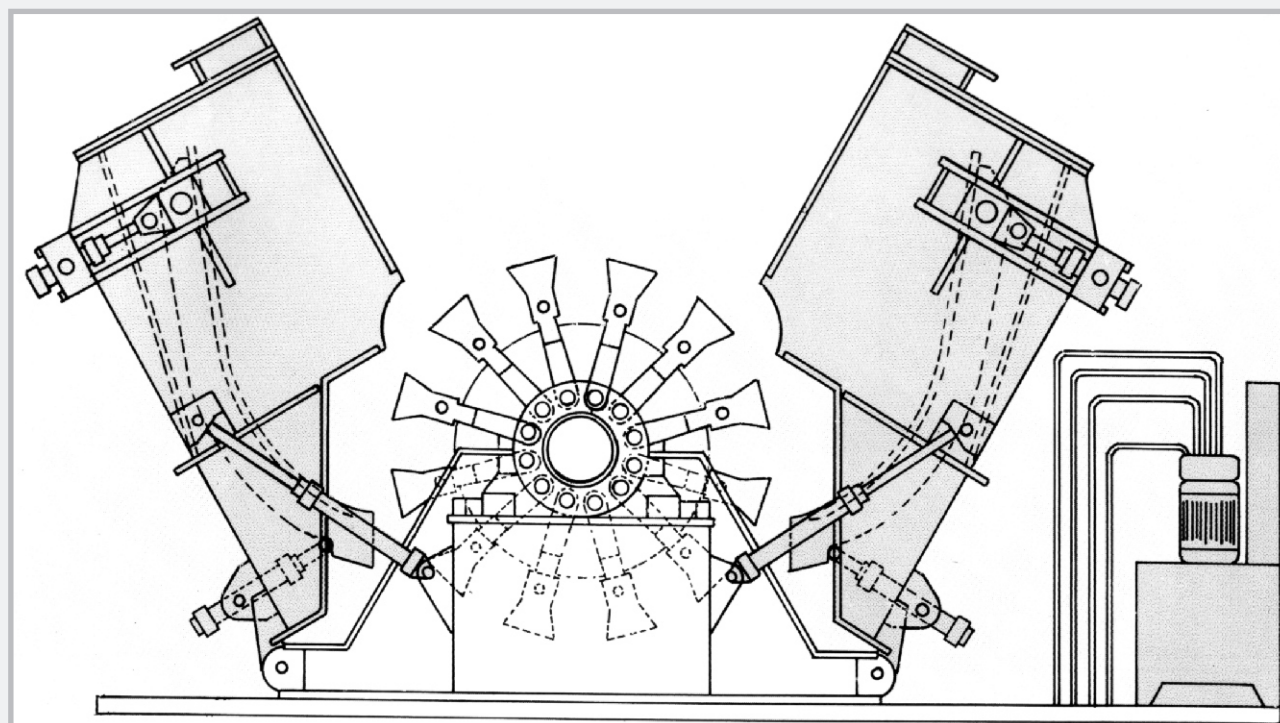


Table for Type 3000

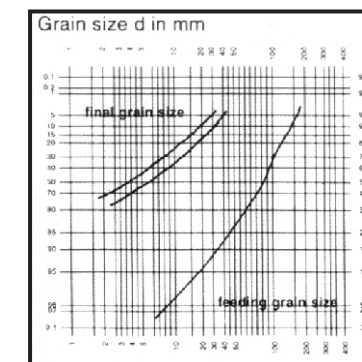
Size	Aφ	B	C	D	E	F	G	H	J	K	L	M	N	O	weight kgs.
3016/14	1600	1400	700	2300	2800	2500	3100	2400	1050	1350		500	1600	2900	25000
3016	1600	1600	700	2300	2800	2700	3300	2400	1050	1350		500	1600	2900	30000
3016/18	1600	1800	700	2300	2800	2900	3500	2400	1050	1350		550	1600	2900	33000
3018	1800	1800	800	2600	3200	3100	3800	3000	1300	1700		750	1800	3600	42500
3018/22	1800	2200	800	2600	3200	3500	4200	3000	1300	1700		750	1800	3600	51000
3018/24	1800	2400	800	2600	3200	3700	4400	3000	1300	1700		750	1800	3600	54000
3020	2000	2000	800	2800	3750	3460	4400	3500	1450	2050		850	1800	4000	55000
3020/22	2000	2200	800	2800	3750	3660	4600	3500	1450	2050		850	1800	4000	59000
3020/25	2000	2500	800	2800	3750	3960	4900	3500	1450	2050		850	1800	4000	66000
3024/20	2400	2000	900	3000	3950	3460	4500	3800	1600	2200		1000	2000	4300	73000
3024/25	2400	2500	900	3000	3950	3960	5000	3800	1600	2200		1000	2000	4300	84000
3024/30	2400	3000	900	3000	3950	4460	5500	3800	1600	2200		1000	2000	4300	94000
3026/22	2600	2200	1000	3150	4160	3660	4700	4100	1700	2400		1040	2300	4620	86000
3026/28	2600	2800	1000	3150	4160	4260	5310	4100	1700	2400		1040	2300	4620	101000
3026/34	2600	3400	1000	3150	4160	4860	5910	4100	1700	2400		1040	2300	4620	116000

HAMMER MILLS

with Hydraulic Cylinders for Opening Housing



Dimensions & ratings indicative
Not Binding.



Example
 (1) feeding stock ore (Minette)
 (2) final grain distribution at $v = 37$ m/sec
 (3) final grain distribution at $v = 42$ m/sec
 Throughput capacities for crushing of ores (soft upto medium hard), $\gamma = 1.5-1.7$ t/m²
 down to final grain size of 90% < 25 mm.

REVERSIBLE HAMMER MILL

Open Bottom Type 1200

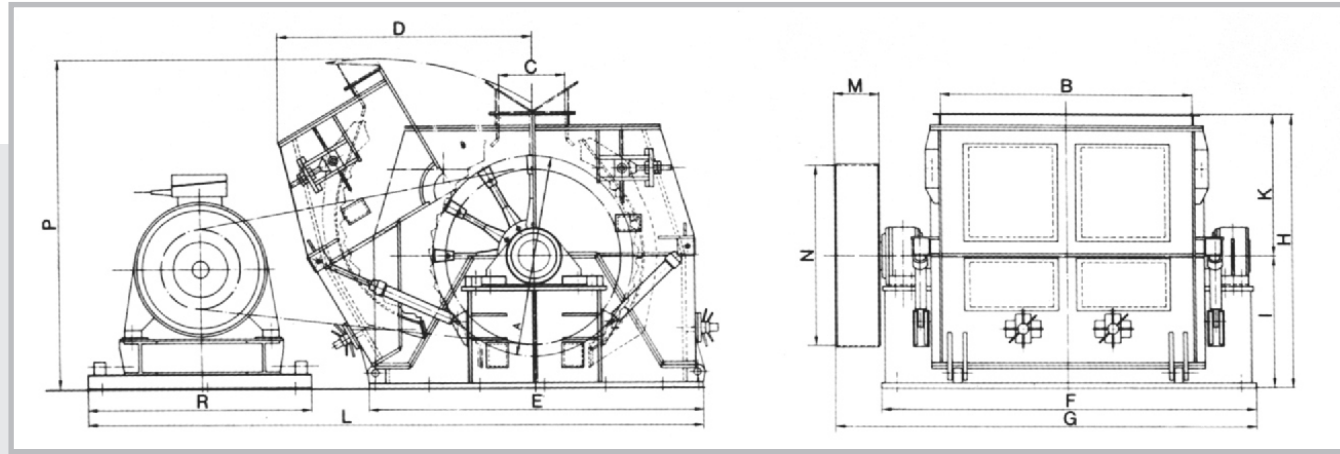
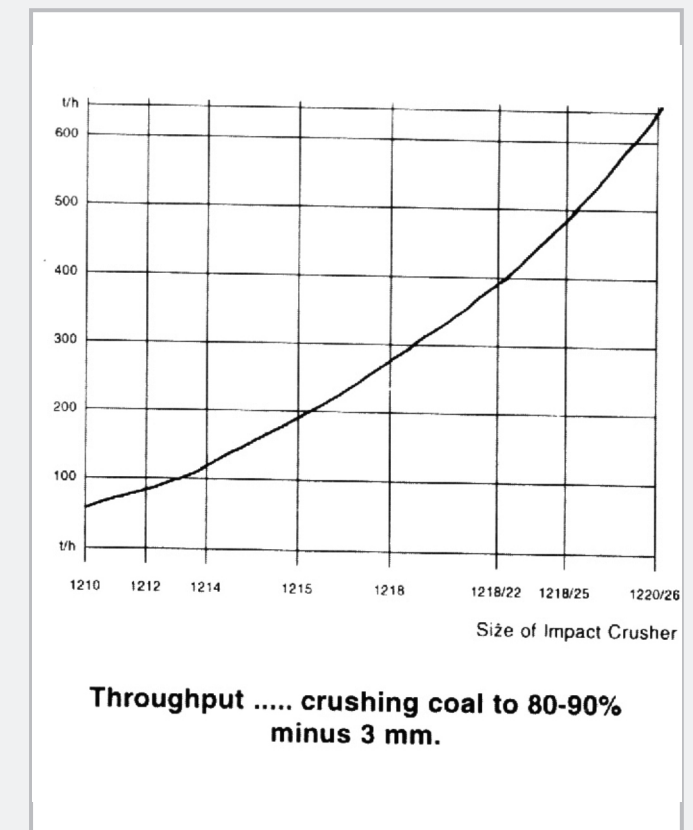
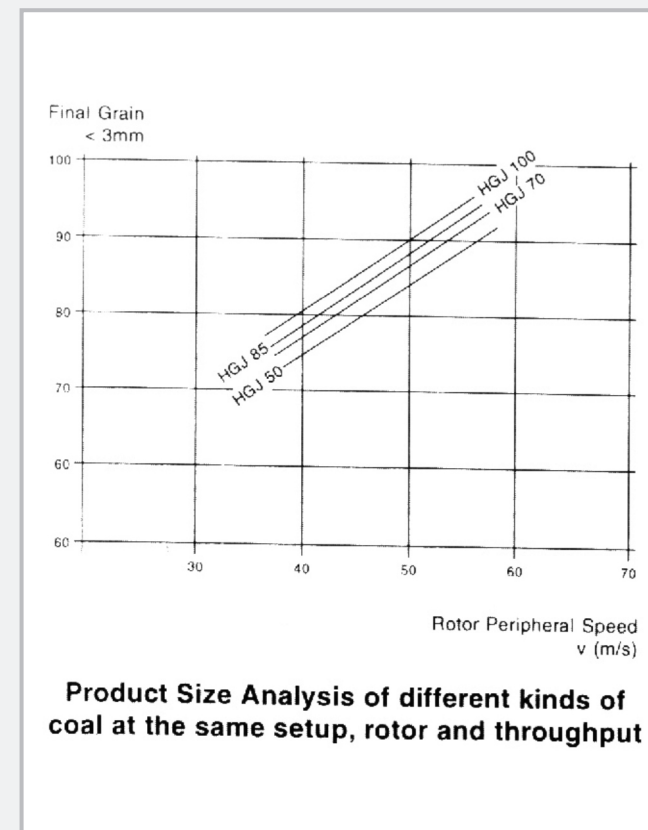
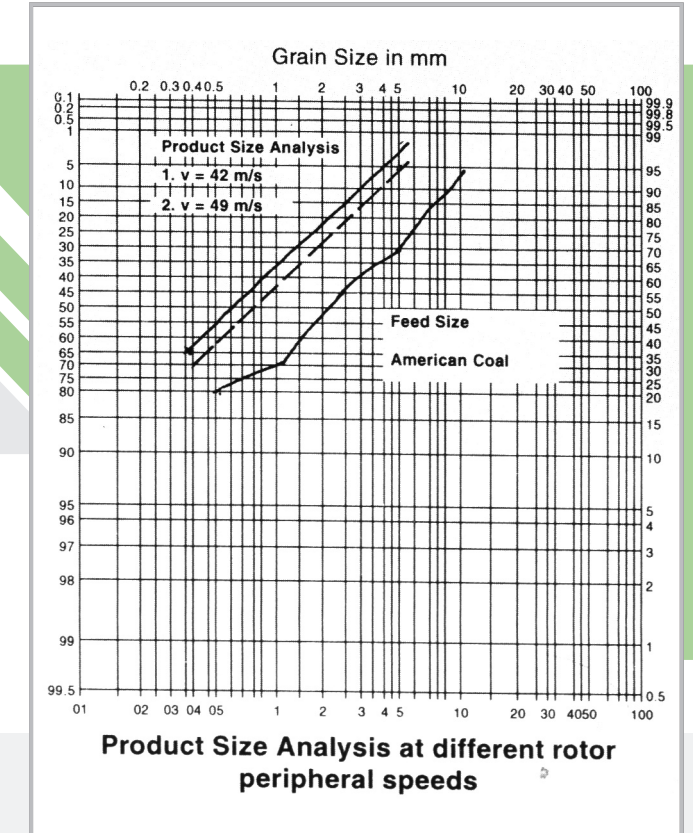
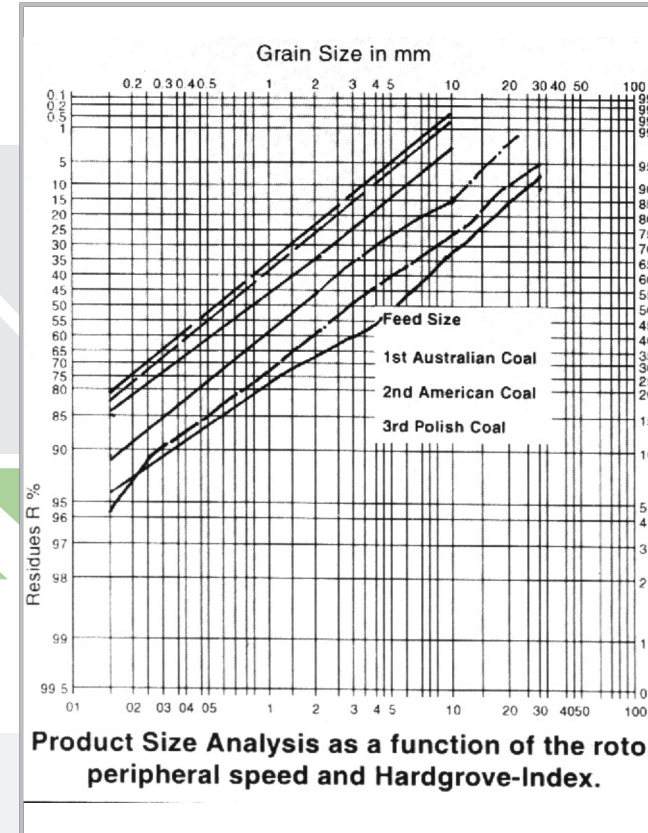


Table for Type 1200

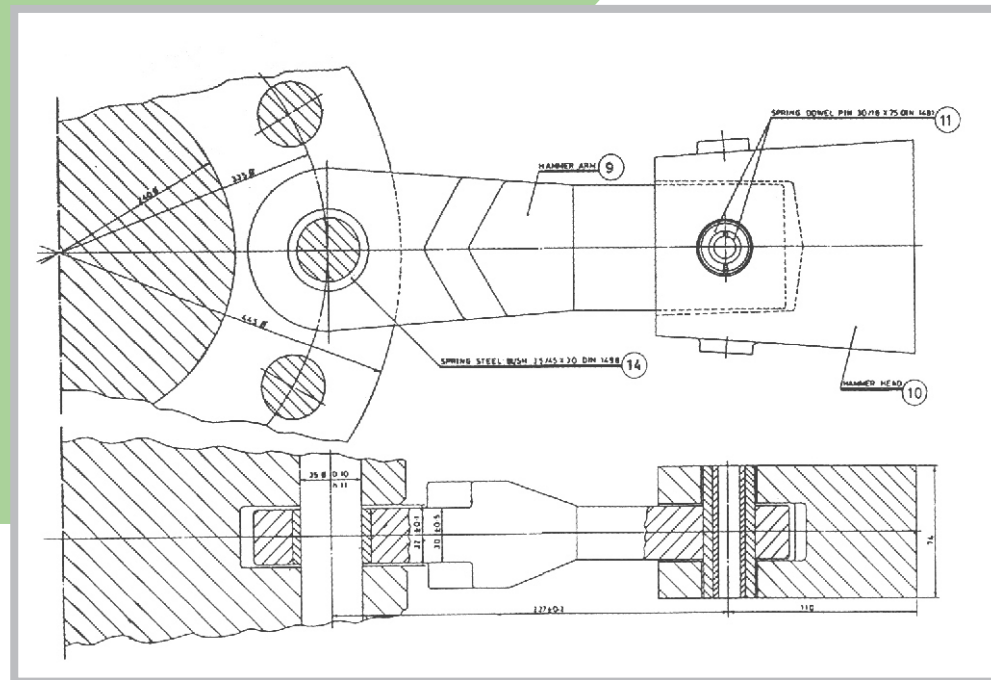
Size	Aφ	B	C	D	E	F	G	H	I	K	L	M	N	P	R	weight kgs.
1208/4	800	400	300	1100	1400	950	1070	1200	550	650	3000	100	500	1400	800	2550
1208/6	800	600	300	1100	1400	1150	1300	1200	550	650	3000	130	500	1400	800	2850
1208	800	800	300	1100	1400	1350	1520	1200	550	650	3200	150	650	1400	900	3200
1208/10	800	1000	300	1100	1400	1550	1750	1200	550	650	3400	180	650	1400	1000	3500
1210/6	1000	600	350	1450	1900	1250	1450	1450	650	800	3750	170	850	1700	1000	5000
1210/8	1000	800	350	1450	1900	1450	1650	1450	650	800	3750	180	850	1700	1100	5500
1210	1000	1000	350	1450	1900	1650	1900	1450	650	800	3900	190	850	1700	1100	6000
1210/12	1000	1200	350	1450	1900	1850	2060	1450	650	800	3900	200	850	1700	1100	6500
1212/10	1200	1000	400	1800	2100	1750	1980	1700	750	950	4100	200	1000	2000	1100	7500
1212	1200	1200	400	1800	2100	1950	2200	1700	750	950	4300	220	1000	2000	1200	8000
1212/14	1200	1400	400	1800	2100	2150	2420	1700	750	950	4300	240	1000	2000	1200	8500
1214	1400	1400	450	2150	2300	2200	2500	1900	850	1050	4400	280	1300	2300	1400	10500
1214/16	1400	1600	450	2150	2300	2400	2730	1900	850	1050	4400	300	1300	2300	1400	12000
1216	1600	1600	550	2600	2700	2500	2850	2200	1000	1200	5000	320	1500	2700	1600	16000
1216/18	1600	1800	550	2600	2700	2700	3080	2200	1000	1200	5000	350	1500	2700	1600	18500
1218	1800	1800	650	2800	3000	2950	3400	2500	1185	1315	5800	420	1600	3100	1850	24000
1218/20	1800	2000	650	2800	3000	3150	3630	2500	1185	1315	5800	450	1600	3100	1850	27000
1218/22	1800	2200	650	2800	3000	3350	3880	2500	1185	1315	5800	500	1600	3100	1850	31000
1218/24	1800	2400	650	2800	3000	3550	4130	2500	1185	1315	5800	550	1600	3100	1850	34500
1218/25	1800	2500	650	2800	3000	3650	4280	2500	1185	1315	5800	600	1600	3100	1850	36000
1220	2000	2000	750	3000	3300	3350	3980	2800	1300	1500	6500	600	1800	3500	2000	44500
1220/22	2000	2200	750	3000	3300	3550	4200	2800	1300	1500	6500	620	1800	3500	2000	44500
1220/24	2000	2400	750	3000	3300	3750	4430	2800	1300	1500	6500	650	1800	3500	2000	46000
1220/26	2000	2600	750	3000	3300	3950	4650	2800	1300	1500	6500	680	1800	3500	2000	48500

REVERSIBLE HAMMER MILL

TYPE 1200



HAMMER ARM & HAMMER HEAD



REVERSIBLE HAMMER MILL

Open Bottom Type 4000

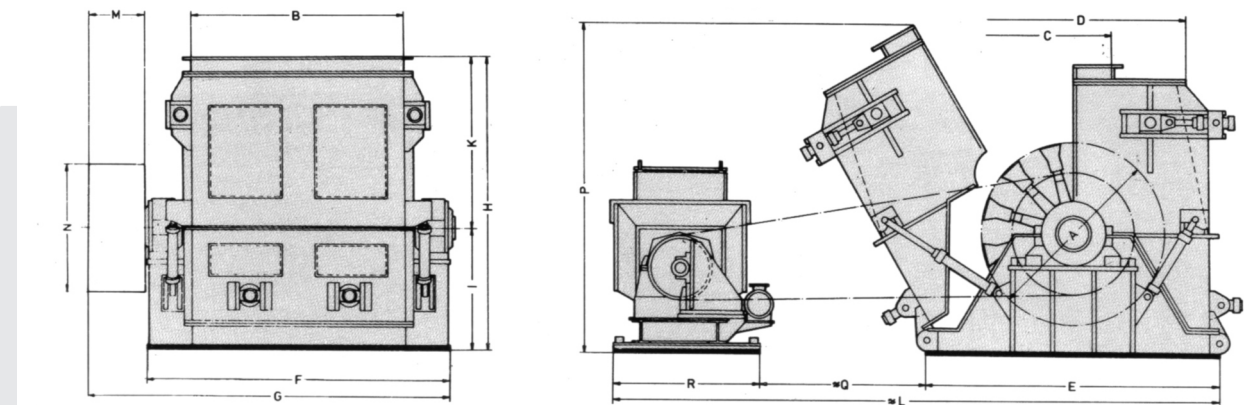
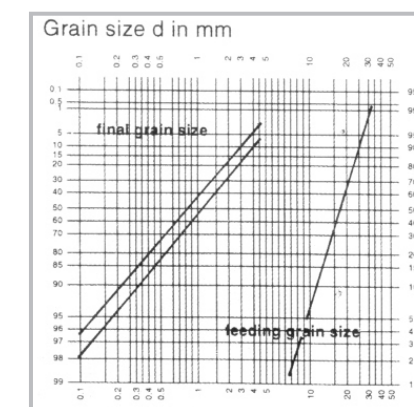
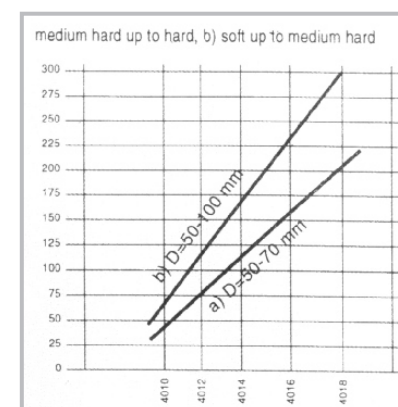
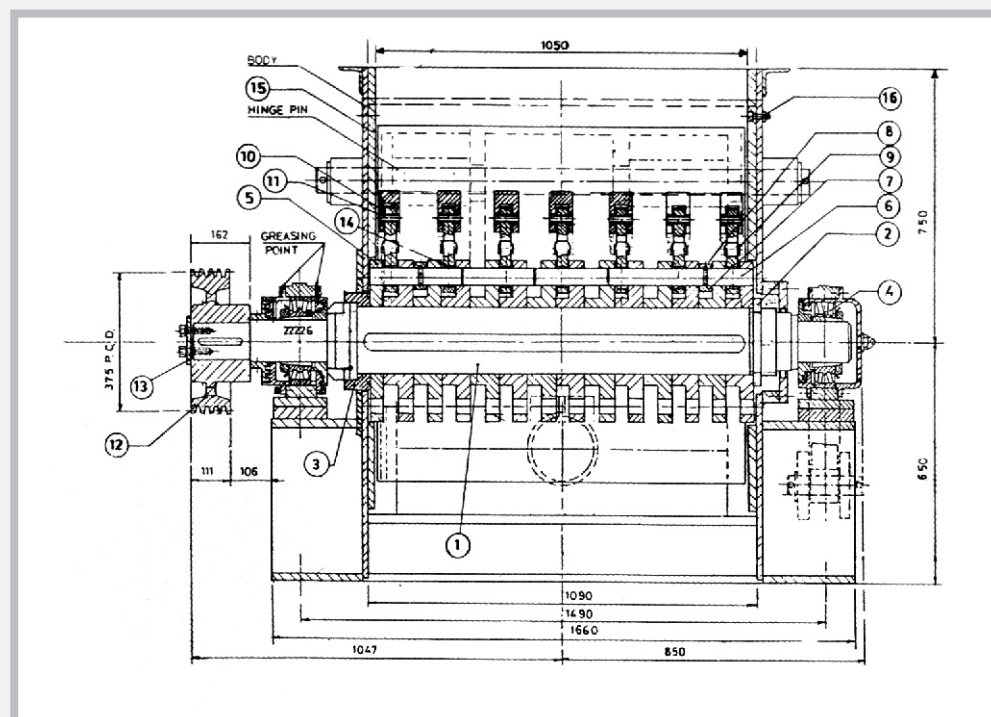


Table for Type 4000

Size	A ϕ	B	C	D	E	F	G	H	I	K	L	M	N	P	weight kgs.
4010/6	1000	600	350	1450	1900	1250	1450	1500	700	800	3900	200	850	1800	5000
4010/8	1000	800	350	1450	1900	1450	1700	1500	700	800	3900	250	850	1800	6000
4010	1000	1000	350	1450	1900	1650	1900	1500	700	800	3900	250	850	1800	6800
4012/10	1200	1000	400	1550	2000	1750	2050	1750	800	950	4500	300	1000	2100	8500
4012	1200	1200	400	1550	2000	1950	2250	1750	800	950	4500	300	1000	2100	9600
4012/14	1200	1400	400	1550	2000	2150	2450	1750	800	950	4500	300	1000	2100	10700
4014/12	1400	1200	450	1700	2300	1950	2300	1900	850	1050	5000	350	1250	2300	11900
4014	1400	1400	450	1700	2300	2150	2500	1900	850	1050	5000	350	1250	2300	13400
4014/16	1400	1600	450	1700	2300	2350	2700	1900	850	1050	5000	350	1250	2300	14800
4016/14	1600	1400	550	1900	2600	2300	2700	2150	1000	1150	5500	400	1500	2600	18500
4016	1600	1600	550	1900	2600	2500	2900	2150	1000	1150	5500	400	1500	2600	22000
4016/18	1600	1800	550	1900	2600	2700	3100	2150	1000	1150	5500	400	1500	2600	25500
4018	1800	1800	650	2300	3000	2950	3700	2500	1185	1315	6350	450	1600	3000	34000
4018/22	1800	2200	650	2300	3000	3350	4100	2500	1185	1315	6350	500	1600	3000	42500
4018/24	1800	2400	650	2300	3000	3550	4300	2500	1185	1315	6350	600	1600	3000	45500

ROTOR ASSLY (For Hammer Mill)



- Example
- (1) feeding stock limestone (hard)
 $v = 37$ m/sec
 - (2) final grain distribution at
 $v = 52$ m/sec
 - (3) final grain distribution at
 $v = 58$ m/sec.

NON-REVERSIBLE HAMMER MILL type 2500

Open Bottom

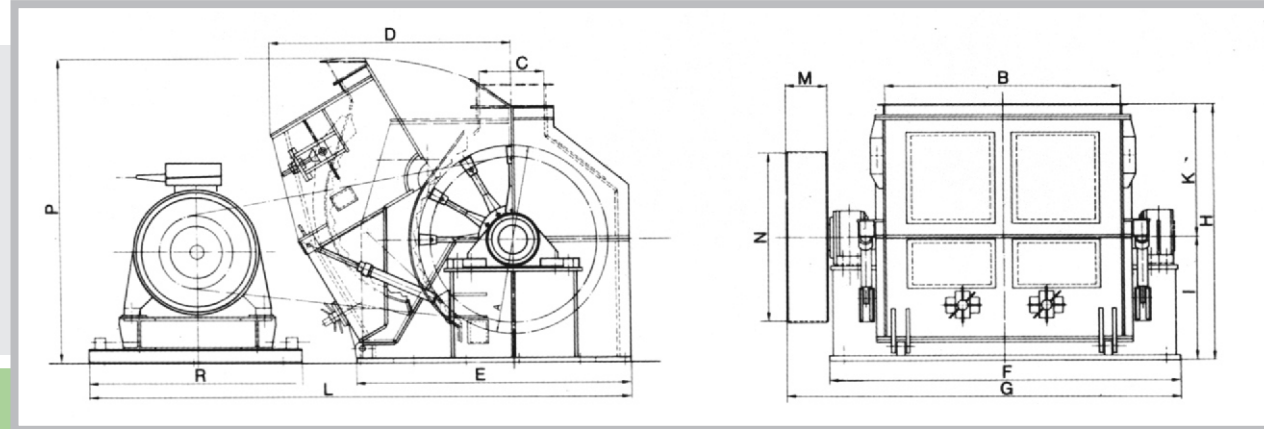


Table for Type 2500

Size	A ϕ	B	C	D	E	F	G	H	I	K	L	M	N	P	R	weight kgs.
2508/4	800	400	300*	1100	1300	950	1070	1200	550	650	2900	100	500	1400	800	2160
2508/6	800	600	300*	1100	1300	1350	1300	1200	550	650	2900	130	500	1400	800	2420
2508	800	800	300*	1100	1300	1350	1520	1200	550	650	3000	150	650	1400	900	2720
2508/10	800	1000	300*	1100	1300	1550	1750	1200	550	650	3200	180	650	1400	1000	2970
2510/6	1000	600	350*	1450	1700	1250	1450	1450	650	800	3500	170	850	1700	1000	3750
2510/8	1000	800	350*	1450	1700	1450	1650	1450	650	800	3500	180	850	1700	1000	4470
2510	1000	1000	350*	1450	1700	1650	1900	1450	650	800	3600	190	850	1700	1100	5100
2510/12	1000	1200	350*	1450	1700	1850	2060	1450	650	800	3600	200	850	1700	1100	5530
2512/10	1200	1000	400*	1800	1900	1750	1980	1700	750	950	3800	200	1000	2000	1100	6400
2512	1200	1200	400*	1800	1900	1950	2220	1700	750	950	3900	220	1000	2000	1200	7050
2512/14	1200	1400	400*	1850	1900	2150	2420	1700	750	950	3900	240	1000	2300	1200	7500
2514	1400	1600	450*	2150	2500	2200	2500	1900	850	1050	4200	280	1300	2300	1400	9200
2514/16	1400	1600	450*	2150	2800	2400	2730	1900	850	1050	4200	300	1300	2300	1400	10500
2516	1600	1600	450*	2600	2500	2550	2850	2200	1000	1200	5000	320	1500	2700	1600	14000
2516/18	1600	1800	550*	2600	2500	2700	3080	2200	1000	1200	5000	350	1500	2700	1600	16000
2518	1800	1800	650*	2800	2800	2950	3400	2500	1185	1315	5500	420	1600	3100	1850	20000
2518/20	1800	2000	650*	2800	2800	3150	3630	2500	1185	1315	5500	450	1600	3100	1850	22500
2518/22	1800	2200	650*	2800	2800	3350	3880	2500	1185	1315	5500	500	1600	3100	1850	26000
2518/24	1800	2400	650*	2800	2800	3350	4130	2500	1185	1315	5500	550	1600	3100	1850	29000
2518/25	1800	2500	650*	2300	2800	3650	4280	2500	1185	1315	5500	600	1600	3100	1850	30000
2520	2000	2000	750*	3000	3100	3350	3980	2800	1185	1500	6200	600	1800	3500	2000	35000
2520/22	2000	2200	750*	3000	3100	3550	4200	2800	1300	1500	6200	620	1800	3500	2000	38000
2520/24	2000	2400	750*	3000	3100	3750	4430	2800	1300	1500	6200	650	1800	3500	2000	39500
2520/26	2000	2600	750*	3000	3100	3950	4650	2800	1300	1500	6200	680	1800	3500	2000	41000

HAMMER MILLS

Construction :

The rotor is forged in one piece and bored in a special device to take up the beaters. Smooth running is ensured by high-precision and perfection in machining and careful balancing of the beater arms, i.e. the beater arms facing each other must be of equal weight.

The beater arm is forged of high-quality steel. The beater head is made of chrom-molybdenum cast steel or compound cast steel.

It features high resistance to wear and can be utilized upto 60%. Beater heads connected with the arms by bolts and safety springs flexibly and can thus be readily replaced.

Impact wall adjustment :

The impact wall adjustment for wear compensation and final grain control may be provided as the top and at the bottom individually. Adjustment may be effected mechanically by spindles or hydraulically by slave cylinders.

Impact Hammer Crusher opened hydraulically

The final product analysis of the crushed material can be altered by adjusting the distance between the rotating hammer heads and the impact walls. At the same time the adjustment serves for compensation of wear.

On the standard design the adjustment of the impact walls can be carried out while the machine is running by regulating screws on the housing cover, while the lower adjustment is effected by means of a ratchet via a worm gear.

If desired we can deliver the Impact Hammer Crusher with hydraulic adjustment as shown in the sketch.

The hydraulic design offers the following advantages concerning operation and maintenance :

1. Hydraulic impact wall adjustment

The grinding walls can be regulated or re-adjusted at the machine by means of control valves; alternatively adjustment can be made in stages from a control station. The actual positions are determined by additional pulsators and indicated by corresponding signal lamp.

2. Hydraulically hinged housings

By this method the casing can be quickly opened. Thus the time for changing the spare parts or the completely equipped rotor will be considerably reduced compared to the standard design.