

"GURASHISH"

MODERATE

Ultimate Crushing Solution



JAW CRUSHER

Stone Crushing & Screening Plants 50 - 250 T.P.H.



MODERATE MACHINES (P) LTD.

About us...



'MODERATE' is a symbol of quality, reliability & perfection in Stone Crushing Machinery.

'MODERATE' Company was founded as a SSI Unit in Jaipur (Rajasthan), India by Sardar Bachan Singh Ji Rattey specializing in Manufacturing of Stone Crushers, Roll-Crushers, Rotary Screens, Conveyors etc. in 1974.

'MODERATE' now having a modern, well equipped setup for manufacturing of complete Crushing Plants having Two and Three Stage 50-250 T.P.H. Capacity of International standards.

Apart from conventional manufacturing of Stone Crushers, Roll Crushers, Vibrating Screens and Conveyors, we have indigenously developed Complete Crushing Plants single and three stage

Consisting Hoppers, Grizzlies, Jaw Crushers (Single & Double Toggle), Vibro-Feeders, Cone Crushers, Vertical Shaft Impactors (V.S.I.) & Horizontal Shaft Impactors (Rotopactors), Vibrating Screens and Belt-Conveyors.

There are number of our esteemed satisfied customers who are using our plants in India and abroad setting our Mile Stone of Success.

Our main strength is Moderate Team spirit equipped with well experienced and qualified personnel to perform and accept the challenge of undertaking complicated jobs and maintain the high standard of products.

We follow Strict Quality Control backed by Advanced Technology along-with Excellent Experienced Workmanship. Each & Every Component or Equipment is designed keeping in mind Safety, Stability, Economics and Reliability of Operation at every step.

We also have well equipped quality cast iron foundry having 4 MT Single Piece capacity.

We warmly welcome customers around the world to visit our website or contact directly for more details.

HOPPERS

The Material (stone to be crush or reduced in size) is fed/kept into a Hopper which is either made by civil construction or Fabricated. This stored material fall into the processing equipment for further process.

'MODERATE' Hoppers features high strength and adequate design to contain materials to be processed and to deliver continuously up to last stone. Hence increases productivity of Plant.

'MODERATE' Hoppers are made from high quality ultrasonically tested steel plates (IS:2062). Reinforced fabricated steel-structure. This ready to fit fabricated structure quickly and easy fitting and erection at site.

'MODERATE' hoppers are available in 15 cubic meter & 20 cubic meter capacity.



GRIZZLY FEEDERS

'MODERATE' Grizzly (Vibrating feeder) is generally installed in front of the primary crusher, conveys big blocks continuously and evenly while removing the dirt and impurities by means of screening bars fitted with Two Nos. of Unbalanced vibromotors.

As necessary equipment, it can effectively regulate the feeding capacity to match with the capacity of the whole crushing plant as well as stops the feeding in case of sudden power failure / breakdown so the prevents from over feeding / choking of primary crusher.



Main Feature of 'MODERATE' Grizzly-Feeders :

- Strong construction.
- Anti Strike.
- Linear direction feeding.
- Stable and long service life.

Model	Size (L x W in Feet)	Size (L x W in MM)	Capacity* (in T.P.H.)	Recommended Power Twin Unbalanced Vibromotors (in hp)
MGF-0803	8' x 3'	2400 X 900	25 - 50 T.P.H	3.0 HP - 2 Nos.
MGF-1004	10' x 4'	3000 X 1200	50 - 100 T.P.H	5.0 HP - 2 Nos.
MGF-1204	12' x 4'	3600 X 1200	100 - 150 T.P.H	7.5 HP - 2 Nos.
MGF-1404	14' x 4'	4200 X 1500	150 - 200 T.P.H	10.0 HP - 2 Nos.

SINGLE TOGGLE JAW CRUSHERS

'MODERATE' Single Toggle Jaw Crushers are designed with years of experience in manufacturing various types of crushers. These Crushers are widely used in Mines, Chemical Plants, Stone Aggregate and Limestone Crushing Plants. Single-Toggle Jaw Crushers are specifically designed for highest throughput rates.

'MODERATE' Single Toggle Crushers have proven capability of withstanding in the extreme conditions of the mining industry.

'MODERATE' Single Toggle Crushers give good and solid start to the crushing and screening process in the downstream of any crushing plant. It is important to have good primary crusher that can take larger feed size with higher throughput capacity to achieve better capacity and optimum process of a crushing plant.



The main features of **'MODERATE'** Single Toggle Crushers are as under :

DURABILITY

- High operating reliability.
- Easily replaceable spare parts.
- Low operating and maintenance cost.
- Ideal geometry of crushing space.
- Rugged design.
- Stress Relieved base frame integrity.
- Drop forged eccentric shaft to withstand the Load of high reduction.

PRODUCTIVITY

- Adequate eccentric shaft for Higher Productivity.
- Proper Toggle Angle for Minimum Maintenance.
- Heavy Flywheel provides continuous crushing of Hard Products.
- Accurate Nip Angle for Higher Productivity & Long life of Jaw Plates.
- Downward Stroke Crushing Design for Higher Efficiency.

TECHNICAL DATA SINGLE TOGGLE JAW CRUSHERS

Model	Feed Opening (MM x MM)	Maximum Feed Size (in MM/Inch)	Adjusting Range of Opening (in MM)	Crushing Capacity* (in T.P.H.)	Eccentric Shaft (RPM)	Recommended Motor H.P. (1400 RPM)	Weight Approx (in Tons)
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PRIMARY JAW CRUSHERS SINGLE TOGGLE

MJS-1609	400 X 225	200 MM / 8"	38 - 65 MM	15 - 25	325	20 hp	2.5 MT
MJS-2010	500 X 250	225 MM / 9"	42 - 65 MM	22 - 35	325	30 hp	3.5 MT
MJS-2412	600 X 300	275 MM / 11"	50 - 75 MM	30 - 50	325	40 hp	8.0 MT
MJS-3015	750 X 375	350 MM / 14"	75 - 100 MM	60 - 80	300	50 hp	12.0 MT
MJS-3220	800 X 500	480 MM / 19"	75 - 125 MM	65 - 110	300	60 hp	14.0 MT
MJS-3624	900 X 600	580 MM / 23"	100 - 150 MM	90 - 140	290	100 hp	16.5 MT
MJS-3630	900 X 750	735 MM / 29"	125 - 200 MM	125 - 200	275	100 hp	18.5 MT
MJS-4230	1050 X 750	735 MM / 29"	150 - 250 MM	175 - 275	260	150 hp	27.0 MT
MJS-4236	1050 X 900	875 MM / 35"	150 - 250 MM	175 - 275	250	150 hp	38.0 MT
MJS-4836	1200 X 900	875 MM / 35"	150 - 300 MM	200 - 375	250	175 hp	48.0 MT

SECONDARY JAW CRUSHERS SINGLE TOGGLE

MJS - 3606	900 X 150	65 MM / 2½"	25 - 50 MM	20 - 45	325	20 hp	8.0 MT
MJS - 4208	1050 X 200	75 MM / 3"	30 - 65 MM	35 - 75	315	50 hp	10.5 MT
MJS - 4810	1200 X 250	90 MM / 3½"	40 - 75 MM	45 - 90	300	75 hp	14.5 MT

NOTE : Capacities stated are for guidance only. Actual output depends on the physical characteristics and size analysis of the feed material.

- The shown Crushing Capacity based on 1400 Kg./cubic meter material, however for different hard stage material, the percentage may vary.
- Company reserves the Right to make further Modifications which are consider as an improvement.

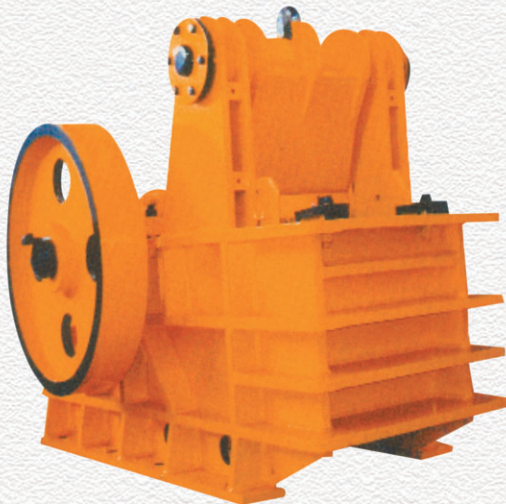


DOUBLE TOGGLE JAW CRUSHERS

'MODERATE' Double Toggle Crushers are designed with years of experience in crusher design and manufacturing know how behind Double Toggle Jaw Crushers. Our crushers provide all round performance with higher productivity and low running cost.

The heavy Robust Stress relieved frame is designed for additional protection against the hard materials and ensures longer running life.

Power requirements are low. Simple action achieves crushing without rubbing (The Jaw Stock being suspended on a dead top shaft results in a simple forward/backward movement) giving longer life to jaw and side plates.



Main features of 'MODERATE' Double Toggle Crushers are as follows :

- Heavy-duty, Heat treated Special alloy shafts to handle Load of High Reduction Ratio.
- Heavy-duty self aligned spherical double roller bearing to absorb the heavy radial / jerky loads.
- Curved jaw Plates to provide non-choking crushing action, Reversible for increased Life of Jaw Plates.
- Rugged frame with heavy-ribbed steel plate construction at stress points, Stress-Relieved before Machining.
- Cheek/Side Plates are one-piece or two-piece for easy replacement.
- Dynamically balanced flywheels to reduce vibrations.
- Toggle plate is Align at an optimum angle for maximum crushing action and for higher crushing capacity.

TECHNICAL DATA DOUBLE TOGGLE JAW CRUSHERS

Model	Feed Opening (MM x MM)	Maximum Feed Size (in MM/Inch)	Adjusting Range of Opening (in MM)	Crushing Capacity* (in T.P.H.)	Eccentric Shaft (RPM)	Recommended Motor H.P. (1440 RPM)	Weight Approx (in Tons)
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PRIMARY JAW CRUSHERS DOUBLE TOGGLE

MJD-1609	400 X 225	200 MM / 8"	38 - 65 MM	12 - 18	325	20 hp	4.0 MT
MJD-2010	500 X 250	225 MM / 9"	42 - 65 MM	16 - 24	325	30 hp	6.0 MT
MJD-2412	600 X 300	275 MM / 11"	50 - 75 MM	22 - 35	325	40 hp	9.0 MT
MJD-3015	750 X 375	350 MM / 14"	75 - 100 MM	45 - 60	300	50 hp	13.0 MT
MJD-3220	800 X 500	480 MM / 19"	75 - 125 MM	50 - 80	300	60 hp	15.0 MT
MJD-3624	900 X 600	580 MM / 23"	100 - 150 MM	75 - 100	290	100 hp	20.0 MT
MJD-3628	900 X 700	675 MM / 27"	125 - 200 MM	90 - 140	275	125 hp	26.0 MT
MJD-4230	1050 X 750	725 MM / 29"	150 - 250 MM	120 - 200	260	150 hp	29.0 MT
MJD-4236	1050 X 900	875 MM / 35"	150 - 250 MM	120 - 200	250	150 hp	40.0 MT
MJD-4836	1200 X 900	875 MM / 35"	150 - 300 MM	140 - 250	250	175 hp	60.0 MT

SECONDARY JAW CRUSHERS DOUBLE TOGGLE

MJD-3606	900 X 150	65 MM / 2½"	25 - 50 MM	18 - 35	325	40 hp	9.5 MT
MJD-4208	1050 X 200	75 MM / 3"	30 - 65 MM	25 - 50	325	50 hp	12.0 MT
MJD-4810	1200 X 250	90 MM / 3½"	40 - 75 MM	35 - 70	325	75 hp	16.5 MT

NOTE : Capacities stated are for guidance only. Actual output depends on the physical characteristics and size analysis of the feed material.

- The shown Crushing Capacity based on 1400 Kg./cubic meter material, however for different hard stage material, the percentage may vary.
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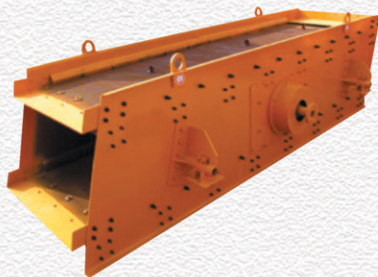


VIBRATING SCREENS

'MODERATE' Vibrating Screen is one of our unique products, which are widely used in Mining & other industries for efficient screening for the Segregation & Separation of material such as Coal & Minerals etc.

Main Features of 'MODERATE' Vibrating Screens :

- Uses eccentric block to produce strong existing force.
- Crossbeam and the main body of the screen are connected with high strength Screw bolts, ensuring simple structure and easy maintenance.
- Structured as Adjustable Amplitude, High Frequency, More Obliquity to Improve Efficiency, Huge Handling Capacity, Long Life Span, Power Consumption and Less Noise.
- More screening area with multi-decks option.



TECHNICAL DATA - VIBRATING SCREENS

Model	Screen Size (in MM)	Number of Layers (Decks)	Recommended Power (in hp)	Vibrating Frequency (in RPM)
MVS-0804	2400 X 1200	1-3	5.0 hp	950
MVS-1004	3000 X 1200	2-4	5.0 hp	950
MVS-1204	3600 X 1200	2-4	7.5 hp	950
MVS-1205	3600 X 1500	2-4	10.0 hp	925
MVS-1405	4200 X 1500	2-4	15.0 hp	925
MVS-1605	4800 X 1500	2-4	15.0 hp	925
MVS-1805	5400 X 1500	2-4	20.0 hp	925
MVS-1606	4800 X 1800	2-4	20.0 hp	900
MVS-1806	5400 X 1800	2-4	20.0 hp	900
MVS-2006	6100 X 1800	2-4	25.0 hp	900
MVS-2207	6700 X 2100	2-4	30.0 hp	900

NOTE : Capacities stated are for guidance only. Actual output depends on the physical characteristics and size analysis of the feed material.

Also Available in various standard sizes and capacity as per requirements.

VIBRO-FEEDERS

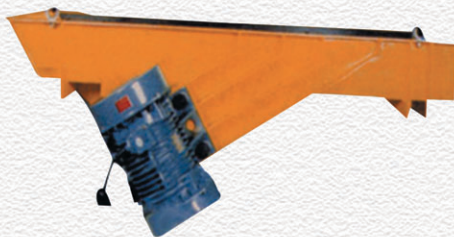
'MODERATE' Vibro-Feeders are used for controlling the flow of material feed for further processing using twin unbalanced Vibro-motors.

Construction

'MODERATE' Vibro-Feeders have fabricated construction, which transmits vibrations without fatigue, built for continuous operation it utilizes the forces set up by two synchronized, counter-rotation, heavy-duty, unbalanced Vibratory Motors, which are firmly fixed to the Feeder through, in a specific angle. Feeders are vibrate freely by means of support springs which is insulated against vibration transmission to base frame. This result in a straight line, push-pull, linear, oscillating motion. The fact that the motors are synchronized and in balance with one another eliminate the isolation problems normally associated with simple eccentric drive systems.

Unbalanced Motor drives are economical for all bulk materials and used where products are to be fed either continuously or in batches as :

- Discharging bulk materials from bins.
- Feeding Crushers, Mixers, Furnaces and Scales.
- Feeding Conveyor-Belts, Buket-Elevators and Vibratory Screens etc.
- Low energy consumed in operation and causes very little pollution.
- Made out of quality materials which makes them long lasting.
- Easy to install and simple to operate.



TECHNICAL DATA OF VIBRO FEEDER

Model	Size (LXW) (in MM)	Size (LXW) (in inch)	Feeding Capacity* (in T.P.H.)
MVF - 1021	1200 x 600	48" x 24"	50 - 100 T.P.H.
MVF - 5031	1500 x 800	60" x 32 "	100 - 150 T.P.H.
MVF - 5032	1500 x 1000	60" x 40"	150 - 200 T.P.H.
MVF - 6041	1800 x 1200	72" x48"	200 - 250 T.P.H.

CONE CRUSHER

'MODERATE' Cone Crushers are designed and developed on layered crushing theory with overload hydraulic cavity cleaning system and lubrication system with refrigerants fully ensure the safety and stability during operation.

With hydraulic push cylinder and lock cylinder to adjust the discharge opening width by hydraulic system. Invent and adopt the techniques of with concave holder & concave and crushing cone body & mantle after machining process to connect with cone surface to instead the anciently complicated techniques.

'MODERATE' Cone Crushers are applicable to break various ores and rocks with medium or harder and widely used as Secondary, Tertiary or Fine stage crushing.

'MODERATE' Cone crushers are highly popular for their compact size low weight to a high crushing performance.

'MODERATE' Cone crushers fitted with adjusting device, hydraulic control system, hydraulic safety system, dust proof ring etc. for full reliability during operation.



TECHNICAL DATA OF CONE CRUSHER

Model	Feed Opening (in MM)	Close Setting (in MM)	Crushing Capacity* (in T.P.H.)	Recommended Power (in H.P.)	Weight Approx (in Metric Tons)
MMC - 900	100 MM	13 - 40	24 -125	100 HP	13.00 MT
MMC - 1200	150 MM	15 - 50	45 - 175	175 HP	23.00 MT
MMC - 1300	200 MM	18 - 65	95 - 250	220 HP	25.00 MT

NOTE : Capacities stated are for guidance only. Actual output depends on the physical characteristics and size analysis of the feed material.

- The shown Crushing Capacity based on 1400 Kg./cubic meter material, however for different hard stage material, the percentage may vary.
- Company reserves the Right to make further Modifications which are consider as an improvement.

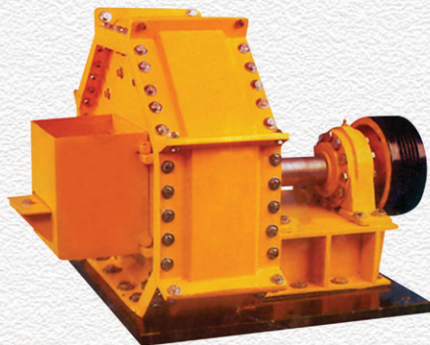
ROTOFACTORS (H.S.I.)

'MODERATE' Rotopactors are designed and developed to handle more volume of material to reduce required cubical size efficiently.

'MODERATE' Rotopactors are widely applicable in the beneficial of sand and gravel making and in the crushing, upgrading and liberation of all types of aggregates.

Working Principle of Rotopactors:

The material to be crush is fed into the centre of Impeller (Rotor) rotating at high speed then crushed material uniformly thrown out-wards by means of centrifugal force.



Output gradation can be partially controlled by varying:

1. Impeller (rotor) speed
2. Feed material characteristics

TECHNICAL DATA - ROTOFACTORS

Model	Maximum Feed Size (in MM)	Maximum Speed (in RPM)	Crushing Capacity* (in T.P.H.)	Motor Power (in HP)	Weight (Approximate in (M. Tons)
MRP-800	35 MM	1000	35	60 HP	7.5 MT
MRP-1000	65 MM	800	50	100 HP	11.0 MT

NOTE : Capacities stated are for guidance only. Actual output depends on the physical characteristics and size analysis of the feed material.

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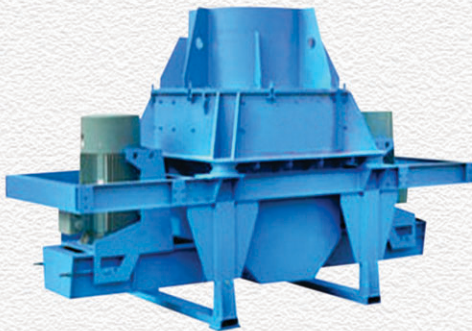


VERTICAL SHAFT IMPACTOR (V.S.I.)

'MODERATE' Vertical Shaft Impactors are combination of Integrating latest design & concept with year's of experience in crushing field.

'MODERATE' Vertical Shaft Impactors optimize the design and increase the precision of fabrication.

'MODERATE' Vertical Shaft Impactors specialize in reshaping of granules and sand-making, widely used in fine-crushing of Rocks, Pebbles and Minerals.



Main Features of **'MODERATE'** Vertical Shaft Impactors:

- High throughput capacity.
- Reduced Energy Costs.
- Cubical shaped product.
- Consistently produces product in a tight gradation range.
- Low wear cost per ton.

TECHNICAL DATA OF VERTICAL SHAFT IMPACTOR

Model	Feed Opening (in MM)	Close Setting (in MM)	Crushing Capacity* (in T.P.H.)	Recommended Power (in HP)	Speed (in RPM)
MVI-600	20 MM	5 MM	10-25	60 hp	1000 rpm
MVI-800	25 MM	5 MM	30-50	160 hp	1000 rpm
MVI-1000	35 MM	10 MM	50-75	220 hp	900 rpm

NOTE : Capacities stated are for guidance only. Actual output depends on the physical characteristics and size analysis of the feed material.

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ROLL CRUSHERS

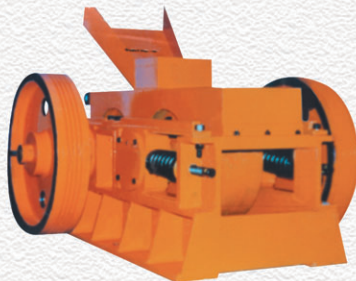
"MODERATE" Roll Crushers are mainly used for additional reduction in sizes after the excavation from the quarry, after subjected to one or more stages of prior crushing.

Construction

'MODERATE' Roll Crushers consists of a heavy steel frame equipped with two alloyed steel rolls, each mounted on a separate horizontal shaft. One of the rolls is spring loaded to provide safety against damage to the rolls when non-crushable material passed through the crusher.

To get the best possible performance out of a roll crusher, the feed size should be such that there is no slippage. A ratio of 3:1 gives the most economical operation from the wear point of view. The maximum feed size should also be selected according to roll diameter and type.

Fine crushing rolls are useful production of sand and chips, being capable of crushing the harder rocks and ores. They give a high output for a comparatively low power consumption and cost of maintenance. The reduction ratio is naturally lower than of a jaw crusher, but it can be increased by using serrated or toothed shell on one or both of the rollers. Adequate safety (relief) spring are fitted to all sizes of machines. If the roll crusher is producing fine aggregate, the reduction ratio should not be greater than 3:1, but in case of grinding the reduction ratio may be as high as 7:1.



TECHNICAL DATA OF ROLL CRUSHER

Model	Feed Opening (MM x MM)	Maximum Feed Size (in MM/Inch)	Adjusting Range of Opening (in MM)	Crushing Capacity* (in T.P.H.)	Shaft (rpm)	Recommended Motor H.P. (720 rpm)	Weight Approx (in Tons)
MRC-3018	750 x 450	12 mm / 1/2"	3 - 5	8 - 12	90	20 HP-2 Nos.	5.75
MRC-3024	750 x 600	12 mm / 1/2"	3 - 5	12 - 15	90	25 HP-2 Nos.	6.50
MRC-4020	1000 x 500	20 mm / 3/4"	5 - 8	35 - 40	85	40 HP-2 Nos.	12.50
MRC-4830	1200 x 750	25 mm / 1"	6 - 8	50 - 55	80	100 HP-2 Nos.	23.50

NOTE : Capacities stated are for guidance only. Actual output depends on the physical characteristics and size analysis of the feed material.

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BELT CONVEYORS

'MODERATE' Belt Conveyors are widely used to transfer granular material and packaged stuff, features high transfer capacity, simple structure, easy maintenance and standardized components. One single or multiple belt conveyors could be assembled flexibly with other transfer equipments to form a complete horizontal or inclined transfer system to meet diversified tasks.

'MODERATE' Belt conveyors designed to provide the major advantages for trouble free service life have the advantage like High Adhesion level, higher ply strength and lower self weight, improved utilization, outstanding impact resistance & elimination of edge protection.

We also undertake the customer's specific requirements as well as Spares like Carrying Roller, Impact Roller, S.A. Carrying Roller, S.A. Return Roller, Head & Tail Pulley S.M.S.R. Gearbox & Electric Motors.



WORKING PRINCIPLE :

Belt conveyor mainly consists of frame, conveying belt, belt drum, tensioning device and gearing. The body is connected by high-quality steel plate and formed by high-low discrepancy of front and rear legs. The body surface shows a certain angle of incline. The frame, outfit with belt frame and carrier roller, is used for driving and supporting the conveying belt. The belt conveyor is driven by Geared Motor or Motorized Pulley.

'MODERATE' Belt Conveyors are available with

- 500 mm wide Belt
- 600 mm wide Belt
- 800 mm wide Belt
- 1000 mm wide Belt
- 1200 mm wide Belt

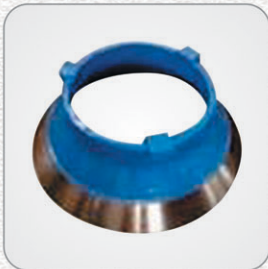
SPARES & CASTING

Spares & Manganese Casting :-

We are leading Provider of Quality spares for construction Equipments, Such as jaw Crusher Plates, Concave, Bowl, Side Plates, Toggle Bearings, Toggle Plates & Liners etc.

Cast Iron Casting :-

We have well equipped quality cast iron foundry up to 4 MT Single Piece Capacity



Cone Crusher's Concave



Roll Crusher's Roll



Cone Crusher's Dust Sealing Ring

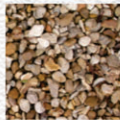


Cone Crusher's Mental



WE MANUFACTURE

- Hoppers
- Grizzly Feeders
- Jaw Crushers (Single Toggle)
- Jaw Crushers (Double Toggle)
- Vibro-Feeders
- Metal Detectors
- Cone Crushers
- Vertical Shaft Impactors (V.S.I.)
- Rotopactors (H.S.I.)
- Roll Crushers
- Vibrating Screens
- Belt-Conveyors
- Spares & Accessories
- Manganese & Cast Iron Casting



MODERATE MACHINES (P) LTD.

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