

## MHP SERIES CONE CRUSHER

### Brief Introduction

MHP series Cone Crushers are compact units and used in a wide range of applications, well suited with its unique combination of speed, throw and cavity design providing maximum production with superior performance, consistent gradation and quality products for medium to hard material for secondary, tertiary and quaternary installations. MHP series has a threaded rotating bowl which maintains a consistent, accurate easily adjusted setting by hydraulic motor and with the use of the tramp release system incorporating dual acting cylinders equally positioned around the Crusher this provides a quick release and re-setting system in the event of foreign objects entering the crushing chamber, this system incorporating a large stroke is also useful for assisting the clearing of stalled crushers, reducing downtime.



### MHP Cone Crusher Features

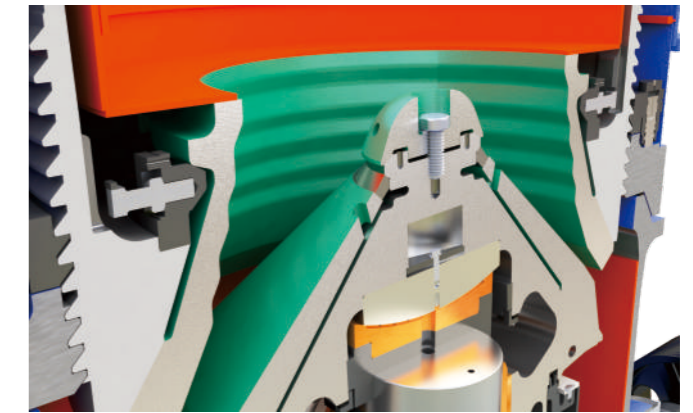
High performance non contact labyrinth seals are wear free and increase reliability of dust free environment. The compact design ensures fewer moving components come in contact with rocks and dust. All components of the crusher have wear protection, including the mainframe seat liners and pin bushings, replaceable head ball, mainframe base gasket, drive bushing protection plate, counterweight guard plate, mainframe liner and feed hopper which minimize maintenance costs.

MHP series cone crusher has a two-way hydraulic cylinder system that assists tramp metal to pass through the crushing chamber, while many other crushers may shut down and stall. The hydraulic movement has a large stroke for clearing the crushing chamber independent of the liners, which enables the operators to clear the chamber quickly, reducing downtime and an easier operation of the Crusher.

The hydraulic setting adjustment motor can be used under load to optimize crusher productivity and help to balance the crushing circuit providing better efficiency. Adding a hydraulic motor transducer system to monitor and convert pressures to electrical outputs can be installed to a distributed control system plant to track and control the Crusher automatically.

### Easier Maintenance

MHP series are fitted with oil pressure lubricated bronze bushings throughout providing extreme load and shock capabilities. Bronze bushes are more affordable and can be easily replaced on site with general tools. All parts of the MHP series Cone Crusher can be disassembled and maintained from the top or side. The mantle and concave are also easy to disassemble and replace.



Concave and Mantle Liners Assembly

### Variable Application

MHP series chamber can be easily changed from standard extra coarse to short head extra fine by replacing the concave liner, mantle liner, adapter ring, and wedge lock bolt only.

### Easier Operation

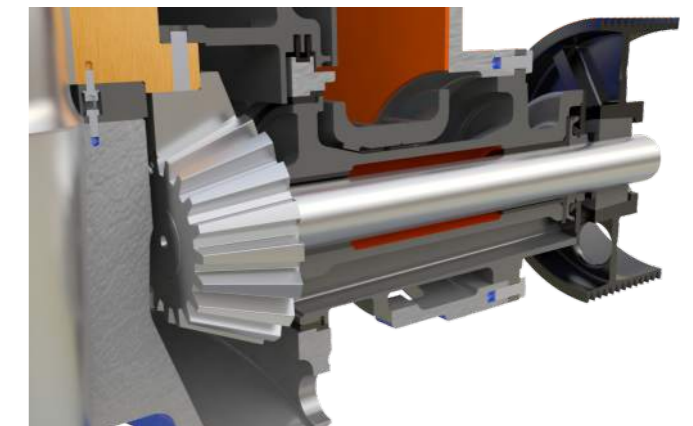
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Tramp Release and Hydraulic Settings

### Easier Operation

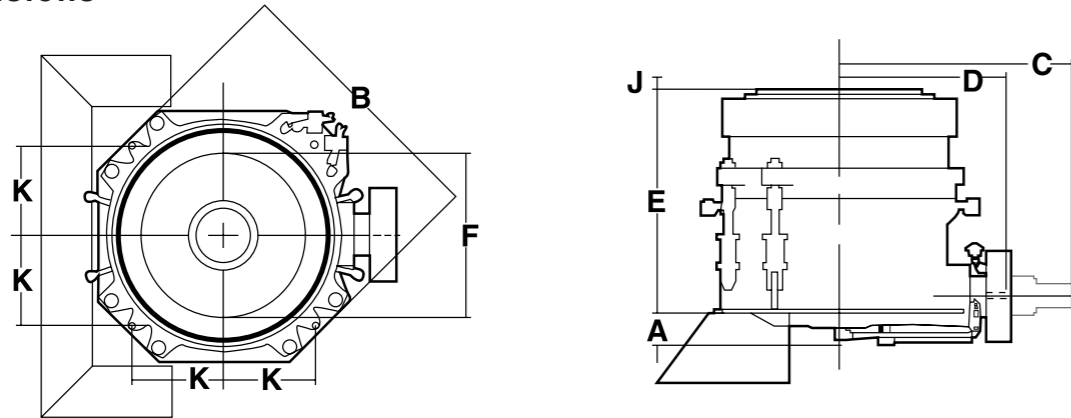
MHP series is fitted with a forged high tensile main shaft and cast steel eccentric, driven by a molly cast steel case hardened carbonized bevel wheel pinions. The small beveled pinion is fitted to a forged high tensile steel counter-shaft and driven by a cast iron vee rope drive pulley.



Counter-shaft Assembly

# Specifications

## Dimensions



Dimensions ( mm )	MHP100	MHP200	MHP300	MHP400	MHP500	MHP800
A To bottom of oil piping	293	297	328	240	425	722
B Adjustment ring maximum diameters	1505	1952	2207	2370	2730	3500
C Clearance required for removing countershaft assembly	1560	1840	2020	2470	2650	3450
D To end of countershaft	950	1160	1347	1645	1760	2225
E Maximum height to top	1290	1630	1865	2055	2290	3335
F Inside diameter of feed hopper	694	914	1078	1308	1535	1863
H Clearance required for removing concave assembly	1725	2140	2470	2650	3300	4210
I Clearance required for removing mantle assembly	1700	2165	2455	2715	3165	3845
J Additional upward travel of feed hopper during clearing stroke	65	70	85	105	125	159
K Mounting hole location	NA	545	660	830	882	1130

## Weights (Complete Crusher and Assemblies)

Weights	MHP100	MHP200	MHP300	MHP400	MHP500	MHP800
Crusher Complete ( KG )	5400	10400	15810	23000	33150	64100
Concave, Concave Liner, Adj.Cap, Hopper ( KG )	1320	2680	3525	4800	7200	15210
Mantle, Mantle liner, Feed plate ( KG )	600	1200	2060	3240	5120	9300
Maximum Recommended Power ( KW )	90	132	200	315	355	600
Countershaft Speed ( rpm )	750~1200	750~1200	700~1200	700~1000	700~950	700~950

## Crusher Capacity(TPH)

Mtph	Closed Side Settings ( mm )											
Model	6	8	10	13	16	19	22	25	32	38	45	51
MHP100	45-55	50-60	55-70	60-80	70-90	75-95	80-100	85-110	100-140			
MHP200			90-120	120-150	140-180	150-190	160-220	170-220	190-235	210-250		
MHP300			115-140	150-185	180-220	200-240	220-260	230-280	250-320	300-380	350-440	
MHP400			140-175	185-230	225-280	255-320	275-345	295-370	325-430	360-490	410-560	465-630
MHP500			175-220	230-290	280-350	320-400	345-430	365-455	405-535	445-605	510-700	580-790
MHP800			260-335	325-425	385-500	435-545	470-600	495-730	545-800	600-950	690-1050	785-1200

\*Represents capacity through crusher based "instantaneous" product sample

## Crusher Capacities Factors

Cone crusher capacity charts are developed for use as an application tool to properly utilize the MHP crusher's capabilities. The capacity figures shown apply to material weighing 100 pounds per cubic foot or 1600 kg per cubic meter. The crusher is one component of the circuit. As such, its performance is in part dependent on the proper selection and operation of feeders, conveyors, screens, supporting structure, electric motors, drive component and surge bins. Where used, attention to the following factors will enhance crusher capacity and performance.

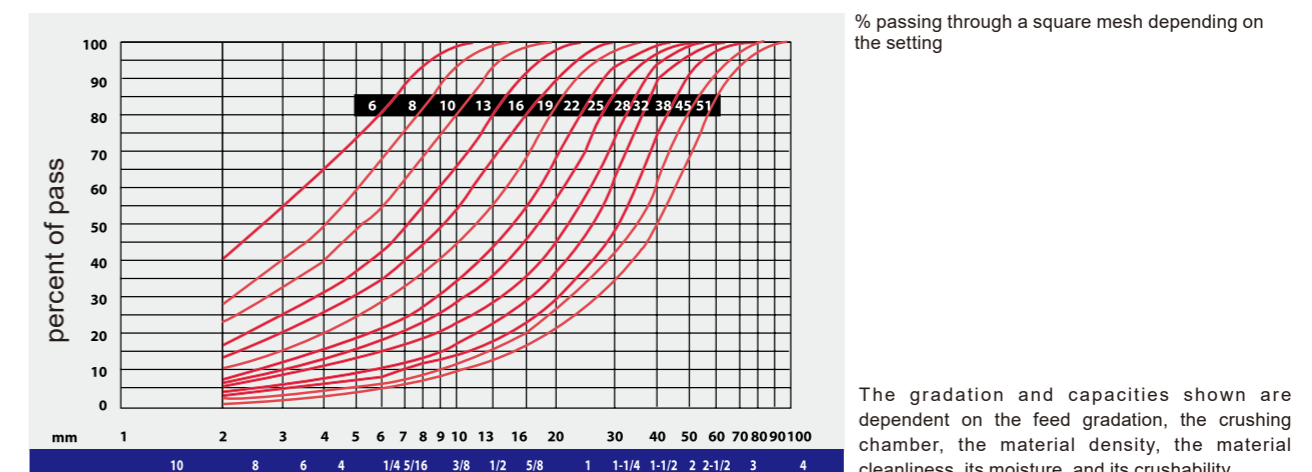
1. Proper selection of crushing chamber for material to be crushed.
2. A feed grading containing a proper distribution of the particle size.
3. Controlled feed rate.
4. Proper feed distribution 360° around the crushing chamber.
5. Discharge conveyor sized to carry maximum crusher capacity.
6. Properly sized scalping and closed circuit screens.
7. Automation controls.
8. Adequate crusher discharge area.

The following factors will detract from crusher capacity and performance.

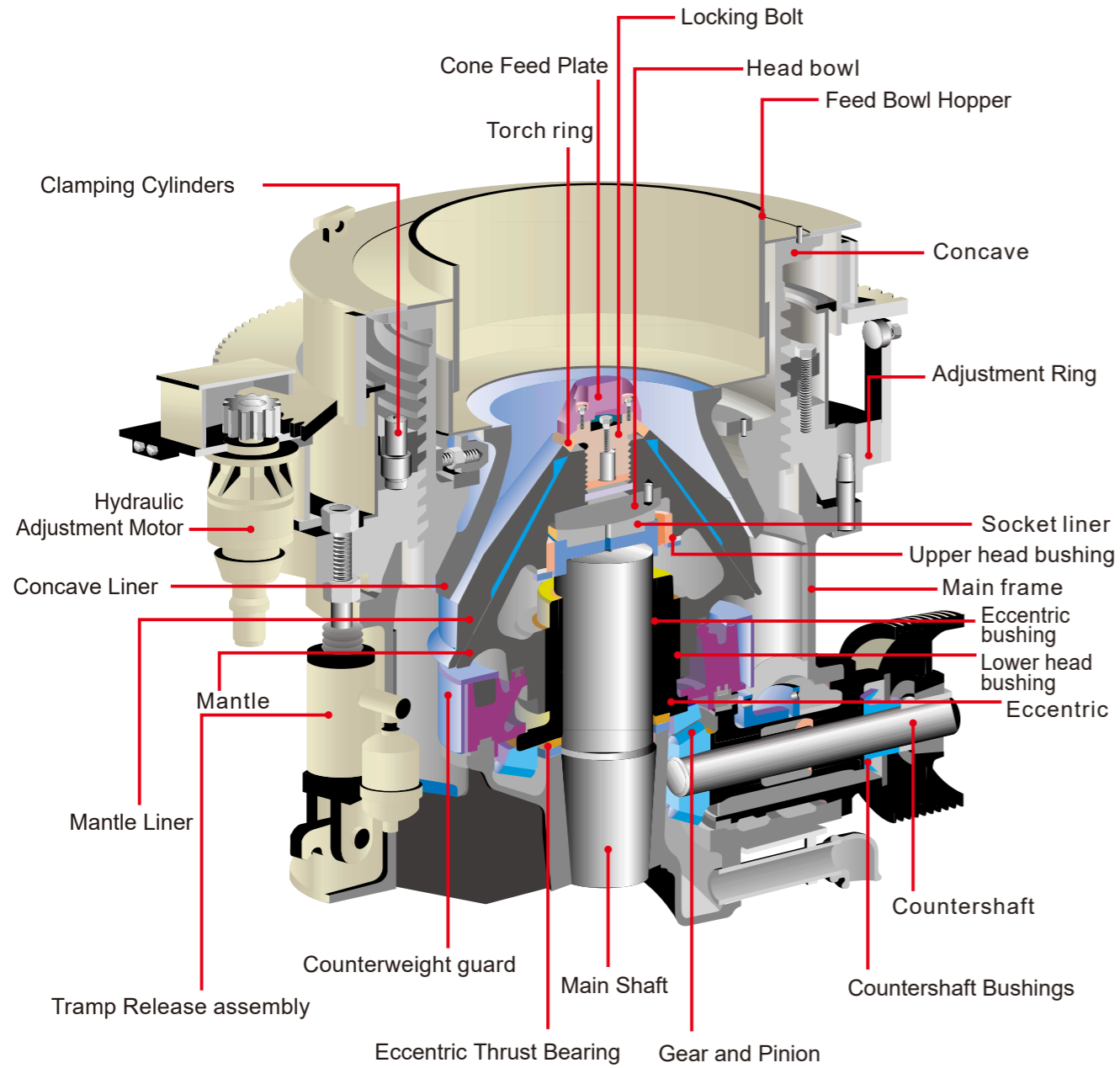
1. Sticky material in crusher feed
2. Fines in crusher feed (smaller than crusher setting) exceeding 10% of crusher capacity.
3. Excessive feed moisture.
4. Feed segregation in the crusher cavity.
5. Improper feed distribution around the circumference of crusher cavity.
6. Lack of feed control.
7. Inefficient use of recommended connected horsepower.
8. Insufficient conveyor capacity.
9. Insufficient scalper and closed-circuit screen capacities.
10. Insufficient crusher discharge area.
11. Extremely hard or tough material.
12. Operation of crusher at less than recommended full load counter-shaft speed.

For individual conditions, consult Mining Partner.

## Gradation Curves



## Main Components Section View



## Crusher Cavity Selection

Model	Cavity	Standard		Short head	
		Minimum Setting A	Feed Opening B	Minimum Setting A	Feed Opening B
MHP100	Extra Fine			6 mm (0.24")	20 mm (0.79")
	Fine			9 mm (0.35")	50 mm (1.97")
	Medium			9 mm (0.35")	70 mm (2.76")
	Coarse			13 mm (0.51")	100 mm (3.94")
MHP200	Extra Coarse			21 mm (0.83")	150 mm (5.91")
	Extra Fine			6 mm (0.24")	25 mm (0.98")
	Fine	14 mm (0.55")	95 mm (3.74")	6 mm (0.24")	25 mm (0.98")
	Medium	17 mm (0.67")	125 mm (4.92")	6 mm (0.24")	54 mm (2.13")
MHP300	Coarse	19 mm (0.75")	185 mm (7.28")	10 mm (0.39")	76 mm (2.99")
	Extra Coarse				
	Extra Fine			6 mm (0.24")	25 mm (0.98")
	Fine	13 mm (0.51")	107 mm (4.21")	6 mm (0.24")	25 mm (0.98")
MHP400	Medium	16 mm (0.63")	150 mm (5.91")	8 mm (0.31")	53 mm (2.09")
	Coarse	20 mm (0.79")	211 mm (8.31")	10 mm (0.39")	77 mm (3.03")
	Extra Coarse	25 mm (0.98")	233 mm (9.17")		
	Extra Fine	14 mm (0.55")	111 mm (4.37")	6 mm (0.24")	30 mm (1.18")
MHP500	Fine	20 mm (0.79")	198 mm (7.80")	6 mm (0.24")	40 mm (1.57")
	Medium	25 mm (0.98")	252 mm (9.92")	8 mm (0.31")	52 mm (2.05")
	Coarse	30 mm (1.18")	299 mm (11.77")	10 mm (0.39")	92 mm (3.62")
	Extra Coarse			10 mm (0.39")	92 mm (3.62")
MHP800	Extra Fine			6 mm (0.24")	35 mm (1.38")
	Fine	16 mm (0.63")	133 mm (5.24")	8 mm (0.31")	40 mm (1.57")
	Medium	20 mm (0.79")	204 mm (8.03")	10 mm (0.39")	57 mm (2.24")
	Coarse	25 mm (0.98")	286 mm (11.26")	13 mm (0.51")	95 mm (3.74")
MHP800	Extra Coarse	30 mm (1.18")	335 mm (13.19")		
	Extra Fine			5 mm (0.20")	33 mm (1.30")
	Fine	16 mm (0.63")	219 mm (8.62")	10 mm (0.39")	92 mm (3.62")
	Medium	25 mm (0.98")	267 mm (10.51")	13 mm (0.51")	155 mm (6.10")
MHP800	Coarse	32 mm (1.26")	297 mm (11.69")		
	Extra Coarse	32 mm (1.26")	353 mm (13.90")		

① The minimum setting is that at which the crusher will operate without causing ring bounce. Depending on the crusher characteristics of the rock, this setting can be changed.

② Feed opening "B" is at a minimum setting "A".

## Product Gradation Table (% passing through square mesh depending on the setting)

	6 (1/4")	8 (5/16")	10 (3/8")	13 (1/2")	16 (5/8")	19 (3/4")	22 (7/8")	25 (1")	28 (1-1/8")	32 (1-1/4")	38 (1-1/2")	45 (1-3/4")	51 (2")
100 (4")	100	100	100	100	100	100	100	100	100	100	100	100	100
75 (3")	100	100	100	100	100	100	100	100	100	100	100	100	98
63 (2-1/2")	100	100	100	100	100	100	100	100	100	100	99	95	90
51 (2")	100	100	100	100	100	100	100	100	99	98	92	82	68
38 (1-1/2")	100	100	100	100	100	100	100	98	95	90	76	62	50
32 (1-1/4")	100	100	100	100	100	100	95	90	79	69	52	42	36
25 (1")	100	100	100	100	98	94	85	74	60	49	40	33	28
22 (7/8")	100	100	100	100	95	88	76	63	51	42	34	28	25
19 (3/4")	100	100	100	98	92	82	68	57	46	37	30	26	22
16 (5/8")	100	100	99	92	80	69	55	46	36	29	24	20	18
13 (1/2")	100	99	92	78	66	55	43	36	28	22	18	16	14
10 (3/8")	100	93	81	66	55	45	34	30	23	18	15	13	11
8 (5/16")	94	82	69	55	45	37	28	24	19	15	13	11	10
6 (1/4")	82	67	55	43	36	29	22	19	16	12	9	8	7
4 (#5)	65	49	40	32	26	21	16	14	11	9	7	6	5
2 (#8)	40	28	23	17	13	11	8	7	6	4	3.5	3	2.5