

**HAZEMAG**  
Hammer Crusher | HDS





# Efficient three - stage crushing operations

## Application

Double-shaft hammer crushers are mainly used in the cement industry for the comminution of soft to medium-hard, but also moist and tough materials: Limestone, gypsum, chalk, clay and marl, as well as lignite and pit coal. The crushing of the feed material is effected by percussion, impact and shear forces.

## Equipment

Two counter-rotating rotors crush feed material of up to 1,600 mm edge length. An anvil is located centrally between the two rotors, which directs the processed material onto grate baskets. These grates, which serve to restrict the amount of oversize, are mounted on a grate carriage and can be completely withdrawn from the crusher housing for servicing and maintenance purposes.

## Rotor

The rotor body together with shaft and bearings forms the »heart« of the impact crusher. Each rotor comprises a central shaft onto which discs are affixed. Between the discs, free-swinging hammers are mounted on hammer bolts extending over the full width of the crusher and secured at both ends to the outer discs. Turning and replacement of the hammers is facilitated by a hydraulic hammer bolt removal device together with a special lifting tool.

## Method of operation

The feed material is processed in three stages:

- 1.** The first stage is effected by percussion and impact as the material is gravity-fed into the tip circle of the hammers.
- 2.** The material then passes onto the anvil, where it is crushed further by percussion and shear forces.
- 3.** The material flow is spread over the following discharge grates, where the product granulometry is separated and discharged through the grates. Any remaining material continues to be processed until it can pass through the grate gap. The grate bar gap spacing determines the final product size.





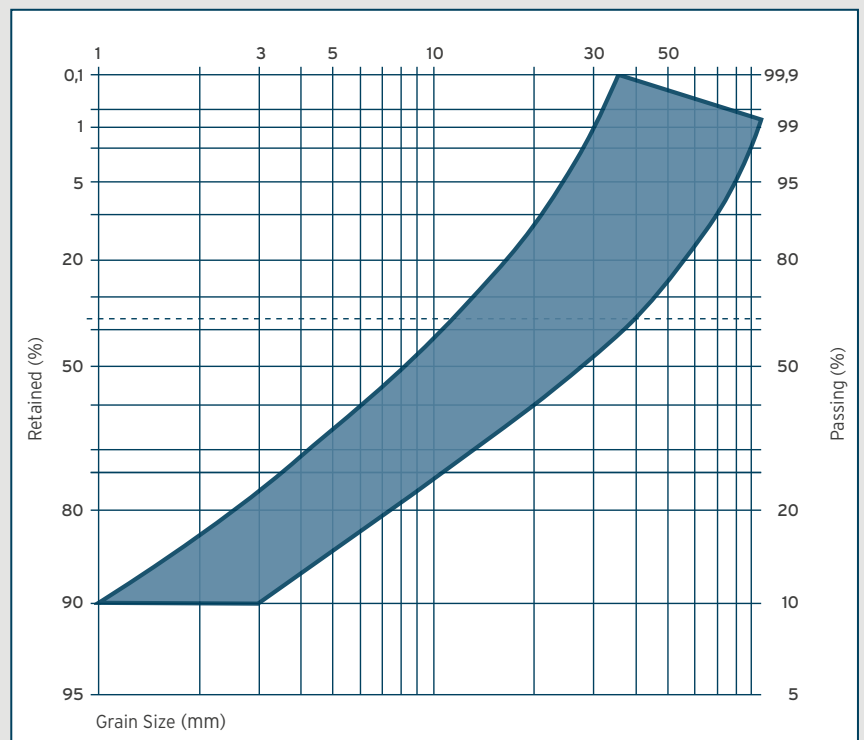
#### Assembly aids

HAZEMAG HDS-type hammer crushers are provided with a rotor turning device, by means of which the rotors can be moved and locked in the appropriate position for hammer changing. For hammer changing, the hammers are fitted into a holding device and secured in position. With a hydraulic aid, the hammer bolts can then be extracted and/or inserted.

The use of a grate carriage enables the grates to be withdrawn from the crusher housing and returned to their original position afterwards.



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Granulation Curve HDS





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## - HAZEMAG is the specialist

Type	Rotor		max. Edge - length of Lump [mm]	Capacity*		Installed Power*		Weight [t]
	Diameter [mm]	Width [mm]		95 % < 25mm [t/h]	95 % < 90mm [t/h]	Product 95 % < 30mm [kW]	Product 95 % < 90mm [kW]	
HDS 1412	1.400	1.200	1.000	180	280	2 x 132	2 x 160	30
HDS 1414	1.400	1.400	1.000	220	340	2 x 160	2 x 200	35
HDS 1416	1.400	1.600	1.000	260	400	2 x 200	2 x 250	37
HDS 1418	1.400	1.800	1.000	300	460	2 x 250	2 x 315	40
HDS 1613	1.600	1.320	1.200	330	475	2 x 250	2 x 315	55
HDS 1615	1.600	1.540	1.200	380	560	2 x 315	2 x 355	58
HDS 1618	1.600	1.760	1.200	450	670	2 x 55	2 x 400	61
HDS 1620	1.600	1.980	1.200	550	830	2 x 400	2 x 500	65
HDS 1818	1.800	1.840	1.400	550	800	2 x 400	2 x 500	87
HDS 1821	1.800	2.070	1.400	660	1.000	2 x 500	2 x 630	96
HDS 1823	1.800	2.300	1.400	780	1.225	2 x 630	2 x 710	104
HDS 1825	1.800	2.530	1.400	900	1.450	2 x 710	2 x 880	112
HDS 2019	2.000	1.880	1.600	1.000	1.475	2 x 800	2 x 880	113
HDS 2022	2.000	2.200	1.600	1.150	1.650	2 x 880	2 x 1.100	121
HDS 2025	2.000	2.520	1.600	1.350	1.850	2 x 1.000	2 x 1.100	130
HDS 2028	2.000	2.840	1.600	1.550	2.150	2 x 1.250	2 x 1.250	138
HDS 2032	2.000	3.160	1.600	1.750	2.450	2 x 1.400	2 x 1.400	146

\* values are variable and can be aligned to the particular requirements