







# Effective and flexible fine crushing

#### Application

Hammer mills of the type HUM and HNM are employed for the fine crushing and/or mill drying of medium-hard to soft materials. Examples: Anhydrite, quicklime, lignite, dolomite, electronic scrap, gypsum, glass, potash, limestone, china-clay, diatomite, chalk, phosphates, salts, French chalk and clay.

#### Equipment

Due to their high level of flexibility, hammer mills can be adapted to different operating conditions. The housing is lined with replaceable abrasion wear plates. The hinged sections are opened hydraulically. The mounted equipment, such as e.g. impact and spacer strips (grinding path) and various grates can be replaced simply and employed flexibly, in order to achieve the targeted grain size. The rotors with shaft and bearings form the heart of a hammer mill. As a disc rotor, it is equipped with freely-swinging hammers.

### Mill drying

By mill drying, the material is not only crushed, but dried simultaneously. Process gas is routed through the mill in direct flow with the crushing material. The dried goods generally leave the mill via grates and a downstream discharge screw conveyor, with attached rotary gate valve. The HAZEMAG rotary gate valves serve for the exclusion of false air.

## Process-technical features of the HNM hammer mill

The fineness of the product is influenced by the control of the material flow.

- The double-rotor machine achieves its greatest throughput capacity in case of central material discharge, since the grinding grate or screen surfaces then have the largest area.
- If a grinding path is installed below the first rotor, the material reaches the area of the second rotor, and is thus ground in a two-stage process to a greater level of fineness.
- 3. Optionally the product can be discharged pneumatically to top direction.
- 4. The HUM mill is equipped with one rotor. As a result of the symmetrical structure of the mill housing, the rotor rotation direction can be reversed.







- 1. Product granulation after comminution at a low rotor tip speed using a 0.24 In milling grate
- 2. Comminution over a 0.16 In milling grate at a moderate rotor tip speed
- 3. Comminution over a 0.08 In milling grate and with a high rotor tip speed
- 4. Product from curve no. 2 after screening at 0.05 In



| HAZEMAG Unirotor Mill   HUM |                                      |                                       |                          |                |  |  |
|-----------------------------|--------------------------------------|---------------------------------------|--------------------------|----------------|--|--|
| Туре                        | Rotor dimensions<br>Ø x width [Inch] | Capacity* for<br>95 % < 0.12 ln [t/h] | Installed Power*<br>[HP] | Weight<br>[lb] |  |  |
| HUM 0703                    | 25 x 10                              | 5                                     | 20 - 60                  | 3,300          |  |  |
| HUM 0705                    | 25 x 20                              | 11                                    | 25 - 75                  | 4,000          |  |  |
| HUM 0708                    | 25 x 30                              | 15                                    | 30 - 100                 | 5,300          |  |  |
| HUM 1008                    | 40 x 30                              | 30                                    | 40 - 250                 | 10,600         |  |  |
| HUM 1013                    | 40 x 50                              | 45                                    | 60 - 300                 | 15,000         |  |  |
| HUM 1313                    | 50 x 50                              | 55                                    | 75 - 400                 | 23,400         |  |  |

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

| HAZEMAG Novorotor Mill   HNM |                                      |                                      |                          |                |  |  |
|------------------------------|--------------------------------------|--------------------------------------|--------------------------|----------------|--|--|
| Туре                         | Rotor dimensions<br>Ø x width [Inch] | Capacity* for<br>95% < 0.12 In [t/h] | Installed Power*<br>[HP] | Weight<br>[lb] |  |  |
| HNM 0703                     | 25 x 10                              | 10                                   | 2 x 20 - 60              | 4,200          |  |  |
| HNM 0705                     | 25 x 20                              | 20                                   | 2 x 25 - 75              | 5,500          |  |  |
| HNM 0708                     | 25 x 30                              | 35                                   | 2 x 30 - 100             | 6,800          |  |  |
| HNM 1008                     | 40 x 30                              | 50                                   | 2 x 40 - 250             | 15,700         |  |  |
| HNM 1013                     | 40 x 50                              | 75                                   | 2 x 60 - 300             | 22,000         |  |  |
| HNM 1020                     | 40 x 80                              | 120                                  | 2 x 75 - 400             | 41,400         |  |  |
| HNM 1313                     | 50 x 50                              | 130                                  | 2 x 75 - 400             | 46,300         |  |  |
| HNM 1325                     | 50 x 100                             | 210                                  | 2 x 100 - 600            | 86,000         |  |  |

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