HERRENKNECHT SEPARATIONS

# BENTONITE MIXING PLANTS

Bentonite is a plastic, highly swellable natural clay that is used as a supporting medium in tunneling due to its thixotropic properties. The correct composition and quality of the bentonite suspension plays a decisive role in performance and safety. Herrenknecht Bentonite Mixing Plants (HKBM) continuously provide the required quantity at the beginning and during tunnelling to ensure safe operation. Due to their high efficiency and modular, adaptable container design, these systems are successfully used on construction sites worldwide.

## Importance of bentonite

- Thixotropic behavior
- Stability of the tunnel face
- Safety factor on jobsites
- Lubrication and transport medium

## Advantages of HKBM

- Modular container design
- Highly efficient mixing
- Exact dosing by load cell control
- Easy set-up
- Possibility for hybrid mixing (HD bentonite)
- High quality suspensions due to high shear forces
- Integration into HK.CONNECTED data management system
- Bentonite silos, bags, big bags for operation

REFINING CIRCULAR PROCESSES

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# Herrenknecht Bentonite Mixing Plants
# Technical specifications

- Containerized
- High capacity per mixer (each approx. 30-40 m³/h)
- Expandable & adaptable to requirements
- Switch cabinet with PLC controls and touch panel
- Possibility for each mixer to operate with several screw conveyors
- Batching system (manual / fully automatic)
- Options for dosing via silo, big bag or bags

**Basic items**

- Mixer(s) with high shear pump(s)
- Water buffer tank
- Compressor station
- Operator compartment with control panel and switch cabinet
- Feed screw conveyor(s) to be installed at the silo(s)

**Optional items**

- Bentonite / raw material silo(s)
- Big bag handling system
- Polymer dosing system
- Buffer tank(s)
- Pump stations
- Hybrid mixing systems (HD bentonite)

**Adaptable for all requirements**

| Type | Mixing capacity (at 50 kg/m³) approx. | Measurements | Equipped with |
|---|---|---|---|
| **HKBM 30** | 30 m³/h | 20 ft. | › Mixer with high shear pump: 1 No<br>› Water tank: 1 No<br>› Feed screw conveyor: 1 No |
| **HKBM 60** | 60 m³/h | 20 ft. | › Mixer with high shear pump: 2 No<br>› Water tank: 2 No<br>› Feed screw conveyor: 2 No |
| **HKBM 80** | 80 m³/h | 20 ft. | › Mixer with high shear pump: 2 No<br>› Water tank: 2 No<br>› Feed screw conveyor: 2 No |
| **Bentonite / raw material silo** | 80 - 100 m³ | Ø 2.5 x 10 - 12 m | › Level sensor: 1 No<br>› Filter: 1 No<br>› Ladder: 1 No<br>› Safety system: 1 No |

## Important parameters to know

- Mixing capacity and admixtures
- Pipeline size inside the tunnel and pressure level PN
- Buffer tank volume in m³
- Silos or big bag system for raw bentonite powder
- HK.CONNECTED data management system integration



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