

SEPARATION PLANTS



Herrenknecht Separation Plants (HKS) are used in fluid-assisted tunnelling for the primary separation of solids from the suspension (also known as “slurry”). They are multi-stage, modular, containerized and pre-assembled for easy handling, fast installation and commissioning. Efficient and reliable components, specifically designed according to the geological requirements and to the maximum excavation parameters, guarantee safe and trouble-free operation under optimal disposal conditions. This ensures that the separation process does not become a bottleneck in the tunnelling process.

Importance of separation on jobsites

- › Purification and recycling of suspension for safe operation
- › Key performance factor for TBMs
- › Extension of the suspension lifetime
- › Classification by size
- › Optimized disposal costs
- › Efficient recovery and reuse of water
- › Proven and reliable technology

Advantages of HKS

- › Suitable for high solid loads and volume flows
- › Different capacities and sizes available
- › Modular expandable if necessary
- › Easy handling due to container design (-CC)
- › Compact for low space requirements
- › Fast assembly and disassembly
- › High quality components ensure low maintenance and operating costs
- › Easy to refurbish and reuse

Herrenknecht Separation Plants

Technical specifications

- > Level 4: Hydrocyclones, drum screen machine
- > Level 3: Coarse screen machine, dewatering screen machine
- > Level 2: Buffer tanks
- > Level 1: Active tanks, pumps



Basic items

- > Active, balance and collecting tanks
- > Switch and control cabinets
- > Coarse screen machines for scalping
- > Dewatering screen machines for desanding
- > Hydrocyclone stages for desilting
- > Cyclone feed pumps
- > Ventilation system
- > Sandwich panel housing
- > Pipelining with fast couplings

Optional items

- > Control room and laboratory
- > Drum screen upgrade to avoid clogging
- > Noise and Vibration Cancelling System (NVCS)
- > Density regulation system for ultra-fines
- > STP.ON module for HK.CONNECTED data management system
- > Further peripheral components to complete the jobsite

Technical details approx.

| | | 1-Block (HKS 500 - 1200) | 2-Block (HKS 800 - 1500) | 3-Block (HKS 1500 - 3000**) |
|---|-------|-----------------------------|-----------------------------|--------------------------------|
| Max. inlet flow | m³/h | 500 - 1200 | 800 - 1500 | 1500 - 3000 |
| Max. discharged solids | t/h | 100 - 300 | 300 - 450 | 450 - 1000 |
| Mesh size coarse screens | mm | 12 / 3.1 | 12 / 3.1 | 12 / 3.1 |
| Mesh size dewatering screens | mm | 0.5 / 0.5 | 0.5 / 0.5 | 0.5 / 0.5 |
| Cutpoint D ₅₀ coarse cyclones (15")* | µm | 75 - 90 | 75 - 90 | 75 - 90 |
| Cutpoint D ₅₀ fine cyclones (6")* | µm | 25 - 35 | 25 - 35 | 25 - 35 |
| Screen underflow tank | No | 1 | 2 | 3 |
| Active tank volume approx. | m³ | 50 / 100 | 100 | 150 |
| Total installed power approx. | kW | 150 - 450 | 400 - 850 | 850 - 1200 |
| Dimensions approx. | LxWxH | 12 x 5 x 9 m | 12 x 9 x 12 m | 12 x 12 x 12 m |

* Liquid Viscosity = 1.0 cPs

** higher volumes are possible depending on TBM diameter or requirements



HERRENKNECHT AG

77963 Schwanau
Germany
Phone +49 7824 302-0
Fax +49 7824 302-3403
separations@herrenknecht.com
www.herrenknecht.com

