



Some  
**sand box filling methods**  
are rather out-dated  
and dusty



**KLEIN**  
**sand filling systems**  
**offer dust-free handling**



## Dust-free filling of brake sand



The ergonomically designed filling valve with sealing cone, which distinguishes itself by easy handling, ensures a dust-free connection to the sand box and is almost universally applicable.

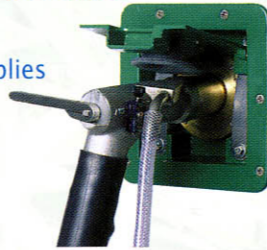


The sand filling process is smooth. In order to prevent sand from being spilled outside the sand box, the filling valve is equipped with a segmental lock. Thanks to the special design of the vent connection, only dust is extracted but no sand.



With the filling valve inserted into the sand box and the sanding system switched on, the sand flow automatically stops when the filling level of the sand box is reached - much like filling your gas tank at the filling station.

KLEIN also supplies filling spouts.



## Sanding stations

KLEIN sanding systems are suitable for installation inside maintenance halls or at outdoors maintenance sites. According to the specific requirements at site, they can either be mounted as suspended or stationary units.

The conveying pipe, which is continuously filled with sand, automatically supplies the sanding stations with brake sand after each sanding process so that a refilled sanding station is available prior to the next sanding process. Each sanding station is equipped with either one or two sanding hoses with filling nozzle. Combined with arrestable balancers, the sanding hoses can be handled even more easily. In off-position the sanding hoses are pulled upwards by the balancers into a parking position.



## Dust Disposal - Sand Storage - Sand Transport



For health reasons it is recommended to dispose of lung piercing silica dust at only one point of the sanding plant. The automatic air return system carries the dust from the individual filling valves to a central filter by means of a special injector system. Here, the dust can be disposed of without harming the environment.



The sizes of the sand storage silos are customized according to specific customer requirements.



A pneumatic pressure vessel conveyor automatically supplies the sanding stations with brake sand from the storage silo via the pneumatic conveying pipe. The gentle plug-flow conveyance preserves the grain structure of the sand and prevents the generation of dust.

## Mobile sanding systems

KLEIN sanding systems are also available as mobile units. Mounted on simple handcarts or electric vehicles, equipped with or without an air compressor, the mobile sanding systems ensure the refilling of sand boxes regardless of location. The mobile systems are refilled, free of dust with brake sand from sand storage silos or sand feeding points.



An SPC-controlled switch and control system that is either equipped with a luminous circuit diagram or a screen monitoring system, contributes to a safe and automatic function of the complete system.





**KLEIN sanding systems for the environmental friendly supply of rail vehicles with brake sand enjoy a good reputation all over the world.**

**The experienced KLEIN team has the skill and the knowledge to offer support and advice from the planning of your maintenance facilities over the individual design of the corresponding sand boxes and their filling opening respectively to extensive service and maintenance of the systems. Take advantage of our more than 30 years of experience**

**More than 500 KLEIN sanding systems all over the world are proof of our professional skills. Challenge us!**

**Here are some of our references:**

**Deutsche Bundesbahn  
Stuttgarter Straßenbahn  
Berliner Verkehrsbetriebe  
Stadtwerke Augsburg  
Mannheimer Verkehrs-AG  
Erfurter Verkehrsbetriebe AG  
Stadtwerke München  
Stadtwerke Bonn  
Bremer Straßenbahn AG  
Duisburger Verkehrsgesellschaft  
Hallesche Verkehrs-AG  
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Stadtwerke Bielefeld  
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**Tuen Mun Honkong  
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Santa Clara County Transp., San José, USA  
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Metro Leger de Tunis, Tunesien  
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Edmonton Transit, Alberta, Canada  
R.E.T. - Metro Rotterdam  
Mass Transport. Admin., Baltimore, USA  
Uganda Railways Corp.  
Transport publics genevois, Genf  
City of Calgary, Alberta, Canada  
Stadtwerke Graz  
Wiener Stadtwerke Verkehrsbetriebe**

KLEIN Anlagenbau AG  
Konrad-Adenauer-Straße 200  
D-57572 Niederfischbach  
Telefon 0 27 34 / 5 01-3 01  
Fax 0 27 34 / 5 01-3 27

  
**Anlagenbau AG**