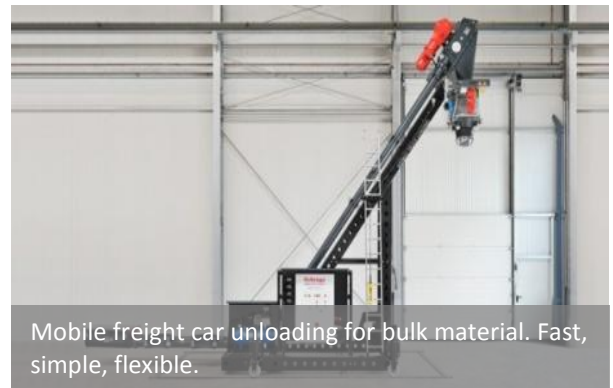


MOBILE FREIGHT CAR UNLOADING BY SCHRAGE FROM FRIEDEBURG - FAST. SIMPLE. INEXPENSIVE.

Freight cars are often unloaded using permanently installed unloading systems or via intermediate storage of the bulk materials in underground bunkers. This usually requires the train to move up to the central unloading station and then with the extremely precise shunting of the entire train to the docking station. Schrage provides a much easier and less expensive way of unloading with its mobile conveyor. It easily and flexibly attaches to the freight car and unloads it right where you want it. This way, your bulk material is reloaded on the spot from the freight car into silo trucks, containers, freight cars, bags, or big bags.



Mobile freight car unloading for bulk material. Fast, simple, flexible.

CONVEYING SOLUTIONS WITH EXTENSIVE TECHNICAL KNOW-HOW

The vast variety of bulk materials is a major challenge for the conveyor system. That is why the conveyor is designed in a way that fine dust can be transported just as easily as coarse material. It must be possible to transport coal, oar and coke, but also fertilizer, salts, animal feed, or soot. The materials to be conveyed all have very different properties. This requires extensive experience in the selection of conveyor materials and the design of the individual parts of the system. Highly abrasive materials, for example, put a heavy strain on the conveyor in the areas of contact with the product and thereby reduce the lifespan of the conveyor system. Another important aspect is operational safety. Especially pulverulent and explosive materials hold an increased accident hazard and might require an ATEX compliant design.

PERFECT ALTERNATIVE TO PERMANENTLY INSTALLED SYSTEMS

The use of flexible unloaders, such as the mobile tube chain conveyor, definitely provides an alternative to permanently installed systems. Apart from the enormous investment costs for stationary systems at the reloading site, mobile systems also save time and money otherwise needed for another reloading from the bunker onto the truck for transportation to the final destination. For this reason, the mobile conveyor system that offers flexible and direct reloading from the freight car will pay for itself within a short period of time.

EASY TO OPERATE AND ABSOLUTELY FLEXIBLE

The mobile tube chain conveyor consist of a tube chain conveyor mounted to a moveable transport cradle, a docking station, a piston compressor, a dust particle filter, a switch cabinet and the loading unit. The main components of the tube chain conveyor itself are the drive and tensioning station, the docking station, e.g. for freight cars, the conveying and the return path, as well as the conveyor chain. With the conveyor mounted onto the transport cradle, it is no problem to move the entire system to the desired position, where it is then secured by means of wheel locks.

FREIGHT CAR UNLOADING ON THE SPOT

In a next step, the docking station is pneumatically connected to the freight car. The docking station, just like all other parts of the conveyor, will be fitted to the type of outlet used. The seals are dust-tight and a filter system inside the station catches any foreign matter in good time.

ABSOLUTELY DUST-FREE BULK MATERIAL HANDLING

The loading system is connected to the silo truck, for example. The loading head can be moved sideways and is thus capable of compensating for the positional inaccuracies of the silo truck. Upon lowering the hopper onto the filling spout, the locking cone of the loading head will drop further and at the same time opens the material discharge spout.



The loading unit features an inflatable sleeve that seals off the connection to the silo truck. In addition, a filter is integrated, which guarantees dust-free loading by means of underpressure. The dust sucked out of the silo truck is reintroduced into the bulk material flow during loading and any filtered off material can also be reintroduced into the material flow by means of a bypass. Inside this closed circuit, practically no material can get lost anymore. The system is operated by means of a suspended push-button switch. The filling level can be adjusted individually by means of the variable lowering depth of the locking cone. Then, the loading process starts. Again, dust-free loading is possible due to an integrated dust suction device at the feed hopper as well as a specially developed seal system between the big bag and hopper. The conveyor chain of the tube chain conveyor is equipped with evenly spaced conveyor discs. The bulk material falls through the feed hopper and into the spaces between the conveyor discs. The sprocket wheel in the drive unit pulls the conveyor chain with the bulk material through the conveyor path toward the loading system. Material feed and dust suction are

separated. Once the truck is filled, the integrated rotating paddle switch cuts off the material feed to the loading head. Upon a successfully completed loading, the loading unit is detached and the silo truck can be newly positioned or replaced.

ADAPTED EXACTLY TO LOCAL CONDITIONS

The tube chain conveyor can be easily adapted to any on-site conditions. The individual components of the system as well as numerous accessories can be combined in many different ways. The only requirement is an electrical connection. Alternatively, the system can also be hooked up to an emergency power supply, thereby making the conveyor completely self-sustaining and useable even in remote areas. The mobile cradle can either use castors, rail systems, or a more robust and all-terrain solution.

Depending on the desired capacity, the mobile conveyor is available in five different sizes: Series 115, 135, 160, 200, and 270. The names are derived from the corresponding tube diameters. With their help, it is possible to convey material with a grain size of up to 100 mm, a bulk density of more than 7 t/m³, and flow rates up to 80 m³/h. For the design of the tube chain conveyor, the properties of the corresponding bulk material, especially the bulk weight, product temperature, and flow behavior, are taken into consideration. Depending on the material to be conveyed, different materials and wall thicknesses as well as project-specific designs will be selected for the conveyor. Due to its moveable design, the mobile chain conveyor is extremely flexible. Various loading systems are available, which are also interchangeable. It is thus also possible, for example, to select a system for bags or big bags.

FOR JUST ABOUT ANY BULK MATERIAL IN JUST ABOUT ANY INDUSTRY

There are almost no limitations regarding the variety of bulk materials because the tube chain conveyor can handle virtually all states of aggregation. The material can also be dusty, grained or slightly adhesive. This also includes particularly demanding bulk materials. These include heavily compacting powders and dusts, such as powdered clay, pigments, soot, preservatives, fillers, etc. The conveyor is used in almost any kind of industry and conveys bulk materials, such as:

- Food: Flour, milk powder, corn starch, tea, sugar, salt, pepper, malt, etc.
- Agricultural products: Cereals, coffee beans, nuts, malt, beans, mustard seeds, seeds, etc.
- Construction materials: Sand, soil, cement, chalk, clay, plaster, calcite, etc.
- Animal feed: Wheat, barley, oats, rye, corn, peas, millet, pellets, etc.
- Chemical products: Synthetic granules, laundry detergent, fertilizer, pesticides, etc.
- Fuels: Pellets, wood chips, carbon powder, animal meal, fluff, etc.

Special industry-specific solutions are also possible, e.g. designs with no dead space, which are suitable for the food industry or ATEX compliant designs for the chemical industry.

CLEAN AND EFFICIENT BULK MATERIAL HANDLING

In general, clean and dust, gas, and pressure-tight transportation of all free-flowing, pourable bulk materials is guaranteed. This closed transportation system is, therefore, particularly suitable for the fast and dust-free handling of demanding and sensitive goods. A large variety of bulk materials can thus be loaded anywhere quickly, easily, and free of impurities. The low degree of grain destruction guarantees the particularly gentle handling of the products. Even explosive bulk materials can be transported safely. The mobile tube chain conveyor is an efficient means of loading. It saves time, reduces costs, and is characterized by its fast startup, high availability, and economic operation.



Mobile freight car unloading for bulk material. Fast, simple, flexible.

The conveyor is also almost maintenance-free; only the chain tension and the wear parts have to be checked at the inspection doors at large intervals. Easy and safe handling guarantees accident-free and reliable operation.

The mobile tube chain conveyor has the following advantages for bulk material handling:

- Bulk materials are transported dust, gas, and pressure-tight
- Difficult bulk materials (abrasive, toxic, explosive, adhesive, or chemically aggressive) can easily be transported
- Virtually no grain destruction due to gentle transportation
- Easy product changes due to a high degree of residual discharge and low cleaning effort

ECONOMIC AND ENVIRONMENTALLY SOUND OPERATION

The tube chain conveyor can handle almost any kind of bulk material without losses and dust-tight. This guarantees an economic and also environmentally sound operation, minimizes the risk of accidents during the loading of toxic or explosive materials, and provides a high degree of operational safety. With the frequent loading of bulk materials, such as dust or granules, the high throughput rate results in significant time and cost savings. And last but not least, Schrage tube chain conveyors are known for their long service life and their excellent price-performance ratio.