

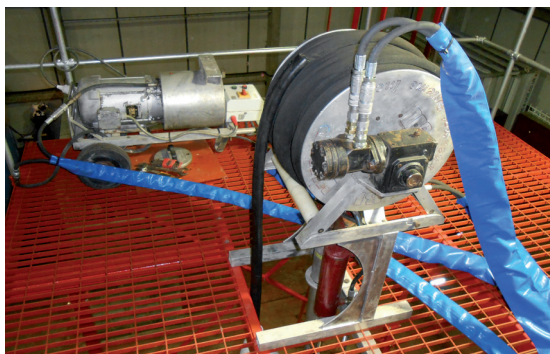
Silo cleaning without confined space entry – safe and efficient



Continuous extension of our services

The mobile silo cleaning service is a valuable addition to the BUCHEN-ICS portfolio. This is a highly-specialised service for cleaning hang-ups, blockages and bridging in bulk storage vessels without confined space entry.

Power unit and BinWhip®-System, built up of a modular aluminium construction



For strict safety standards – antistatic and spark-proof

All types of storage vessels, from coal, fertilisers, gypsum and cement to grain, animal feed, salt, and clay, any material stored in bulk storage vessels can eventually hang up on the walls and reduce capacity or create flow problems.

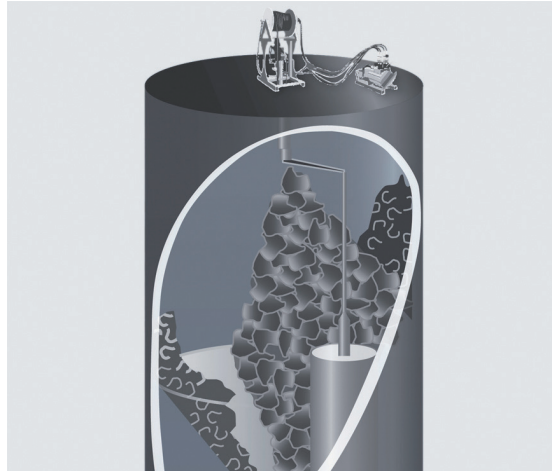
The cleaning equipment uses anti static, nylon flails with plastic knuckles to reduce the potential of sparks within a silo and meets the stringent standards and hygiene requirements in both the chemical and food industries.

The modular design of the equipment means it can be quickly installed on the silo or vessel and adapted to individual vessel sizes. Personnel do not need to enter the vessel at any stage of the work.

Mobile Silo Cleaning Systems

With the help of the BinWhip®, BinDrill® and Cardox® mobile cleaning systems, experts from BUCHEN-ICS Ltd. can remove all types of hang-ups in silos up to 45 metres deep without having to enter the vessel, whilst also avoiding any contamination of the bulk goods.

The BinWhip® system removes hung-up material in the storage vessel

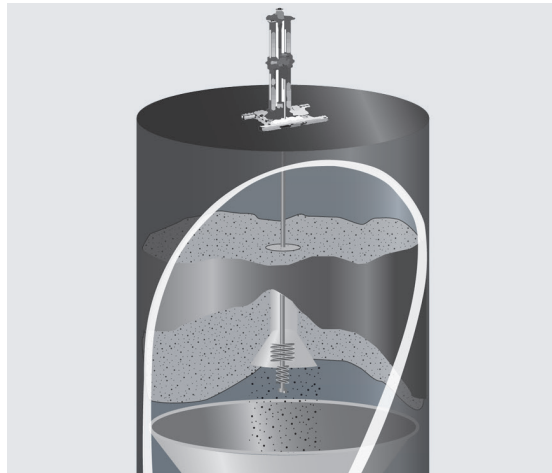


BinWhip® – Bin Cleanout System

The electrical motor is located on the silo top to provide the hydraulic power required to operate the machine. Hydraulic power drives the whip head at a consistent speed to ensure efficient removal of any hung-up material within the silo. Whilst a telescopic boom helps to position the whip head in the most efficient position to remove the material.

Depending upon the material in the silo various whips can be used, along with the nylon whips we can use non-sparking chains made of bronze or steel.

Bridged material is drilled by the BinDrill® system

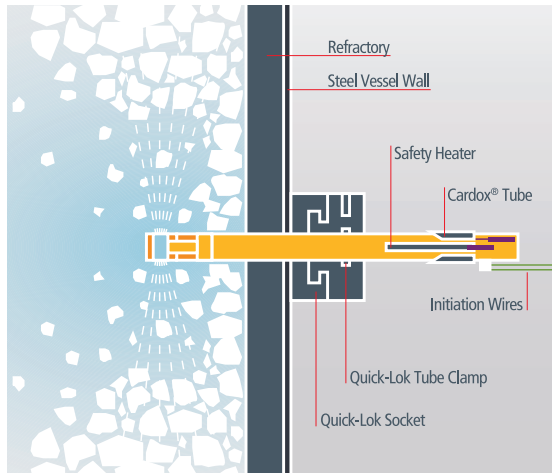


BinDrill® – Bridge-Breaking System

When a silo is bridged leaving a void/cavity at the bottom of the silo, the BinDrill® is used to bore a hole through the bridged material.

Industrial hydraulic motors provide smooth power to rotation, powerful and equal drill and produce the necessary downforce. Various drill bits in graduated sizes assure getting through even the toughest materials. Once a flow channel has been created through the material, the BinWhip®-System is then used to carefully remove the remaining hung-up material from the vessel walls.

The Cardox® system moves tons of material within seconds



Cardox® – Blockage Clearing System

The Cardox® system breaks clogged material in bulk vessels into smaller particle sizes by means of a rapid release of liquid carbon dioxide (CO₂). High-strength reusable steel tubes are filled with liquid CO₂ that is energized with a small electrical charge. The expanding CO₂ is released through a discharge nozzle, creating a powerful pushing force reaching pressures up to 3,000 bar. The system can move large amounts of fused material through the 'heaving' action generated by the Cardox® system.

If there is a permanent installation of the Cardox® tubes outside the bin, undesired or recurrent build-ups can be removed even during the ongoing production.