

Cement, Clinker, Limestone, Iron Oxide,

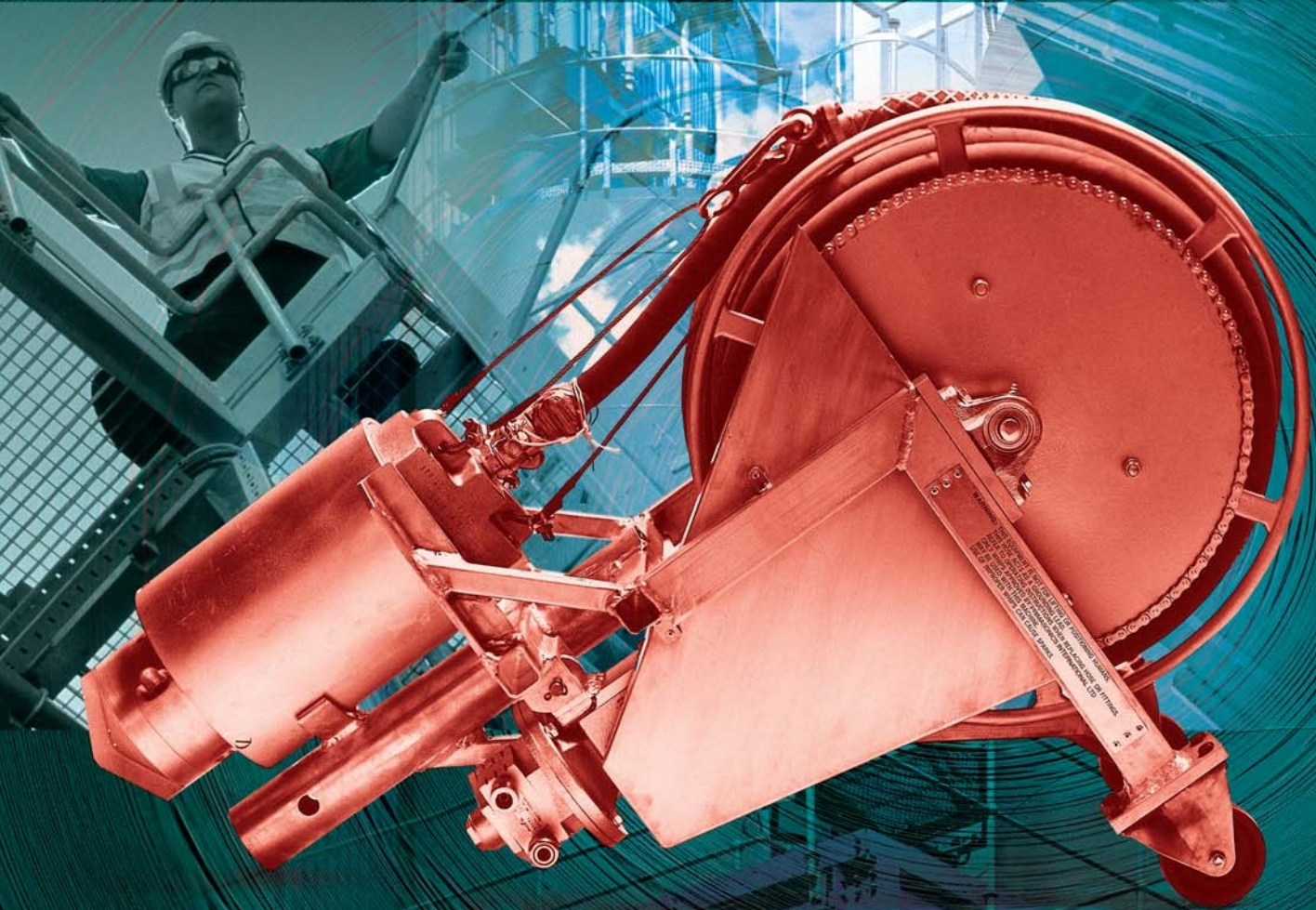
Gypsum, PFA, Sand, Coal, Aluminium Catalyst

Gypsum, Ores, Screenings, Potash, Zinc Oxide

Dicalcium Phosphate, Carbonates, Sulphur

Grain, Rape Seed, Flour, Husks, Wheat, Salt

BS Vertriebsbüro GmbH



PRIMAWHIP

Safe, effective remote removal of even the toughest build-ups and blockages from silos.

Safe, remote silo blockage removal

Under certain conditions materials such as cement, gypsum, coal, a variety of screenings and even grain will adhere to silo walls creating hang ups and blockages. These blockages significantly reduce the efficiency of your system, delay in production and/or bulk despatch and reducing storage capacity - often leading to unplanned shutdowns and in some cases can cause a serious fire risk, serious commercial loss of unrecoverable material and even fatal accidents.

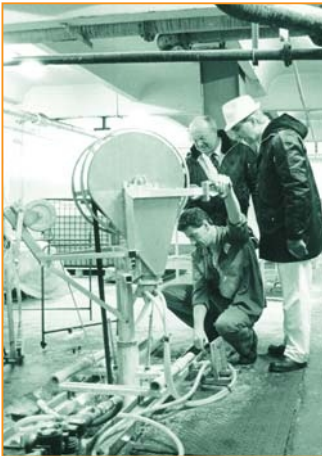
Primasonics® are the undisputed leader in acoustic cleaning technologies for silos, pipework and process vessels. However these work at maximum performance if installed into a clean silo where their periodic cleaning cycle is highly effective in preventing blockages.

Where serious deposits have already built up or where the blockages with material is particularly tough, Primasonics®' specially developed PrimaWhip technology offers the perfect solution.

PrimaWhip is the quick, safe, efficient and highly cost effective solution to the removal of even the toughest build-ups of material without the need for dangerous, time consuming and expensive man entry.

Based around a specially developed pneumatic cleaning head which is lowered into the vessel to be cleaned, PrimaWhip is the ideal solution to tackle a wide range of tough residues including cement and clinker without any need for man entry or plant shutdown.

In response to the fire risk intrinsic in many particulate, powdered or dusty materials, PrimaWhip is constructed from non-sparking aluminium and brass, giving an additional weight advantage that makes the system exceptionally easy to operate and manoeuvre by your team.



Ease of operation:

Whilst PrimaWhip requires just two operators to set it up, the cleaning process can be carried out by just one worker, though supervision should be maintained for safety.

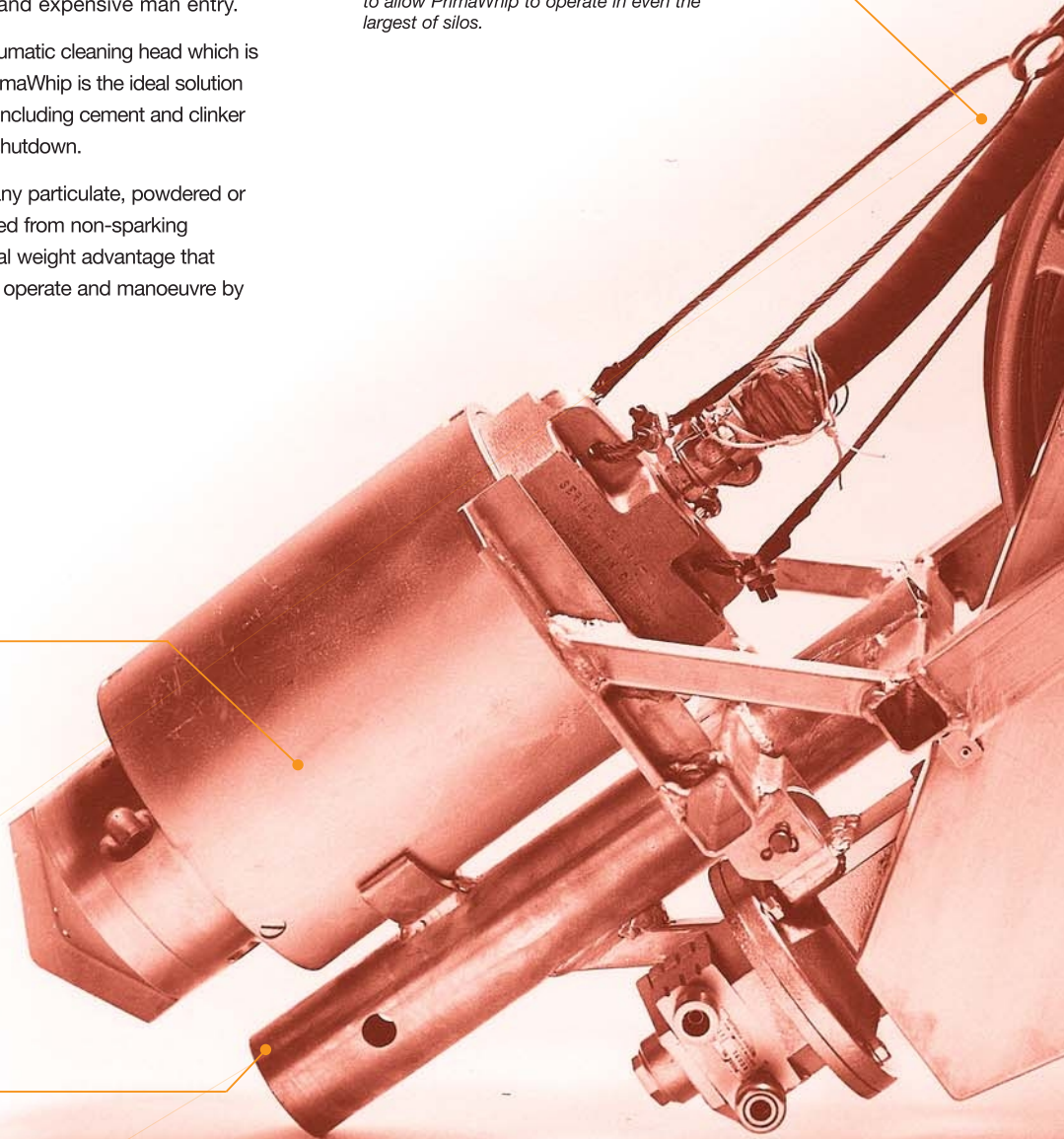
Quality of construction:

PrimaWhip units are constructed to the highest specification using non-sparking materials such as aluminium and brass. These, combined with the compressed air drive system make the PrimaWhip suitable for use even in the most hazardous Zone 1 and 2 conditions.



A Compact, Versatile System:

Powered by your own compressed air system, the complete PrimaWhip unit is compact and light in weight. Extension bars are the only addition required to the items pictured above to allow PrimaWhip to operate in even the largest of silos.



Primasonics Training:

Full, expert training in all aspects of the operation and maintenance of the PrimaWhip system is available from the Primasonics team.

PrimaLance:

Utilised in conjunction with PrimaWhip, PrimaLance is a special 'drill' that is used to create a hole up through a blockage in a completely plugged silo. Attacking the blockage from beneath ensures that material falls away clear of the cutting head as it works. The new hole created then allows PrimaWhip to be lowered in from the top to start its work clearing the remaining materials.

**PrimaWhip Cleaning Applications**

Because of its flexibility, the PrimaWhip system is suitable for a vast range of silo, hopper and process vessel cleaning operations, included here are just some of the applications in which the system has a proven record.

This is of course by no-means a complete list, if you have a potential application not shown please contact our Technical Services for advice on the suitability of PrimaWhip, simply email bs-vertrieb@web.de or telephone ++49 (0) 7135 12409

•) **Processing industry:**

Cement, Clinker, Limestone, Iron Oxide, Gypsum, PFA, Sand, Coal, Aluminium Catalyst and a wide range of other powdered, pelleted and particulate materials.

•) **Mining operations:**

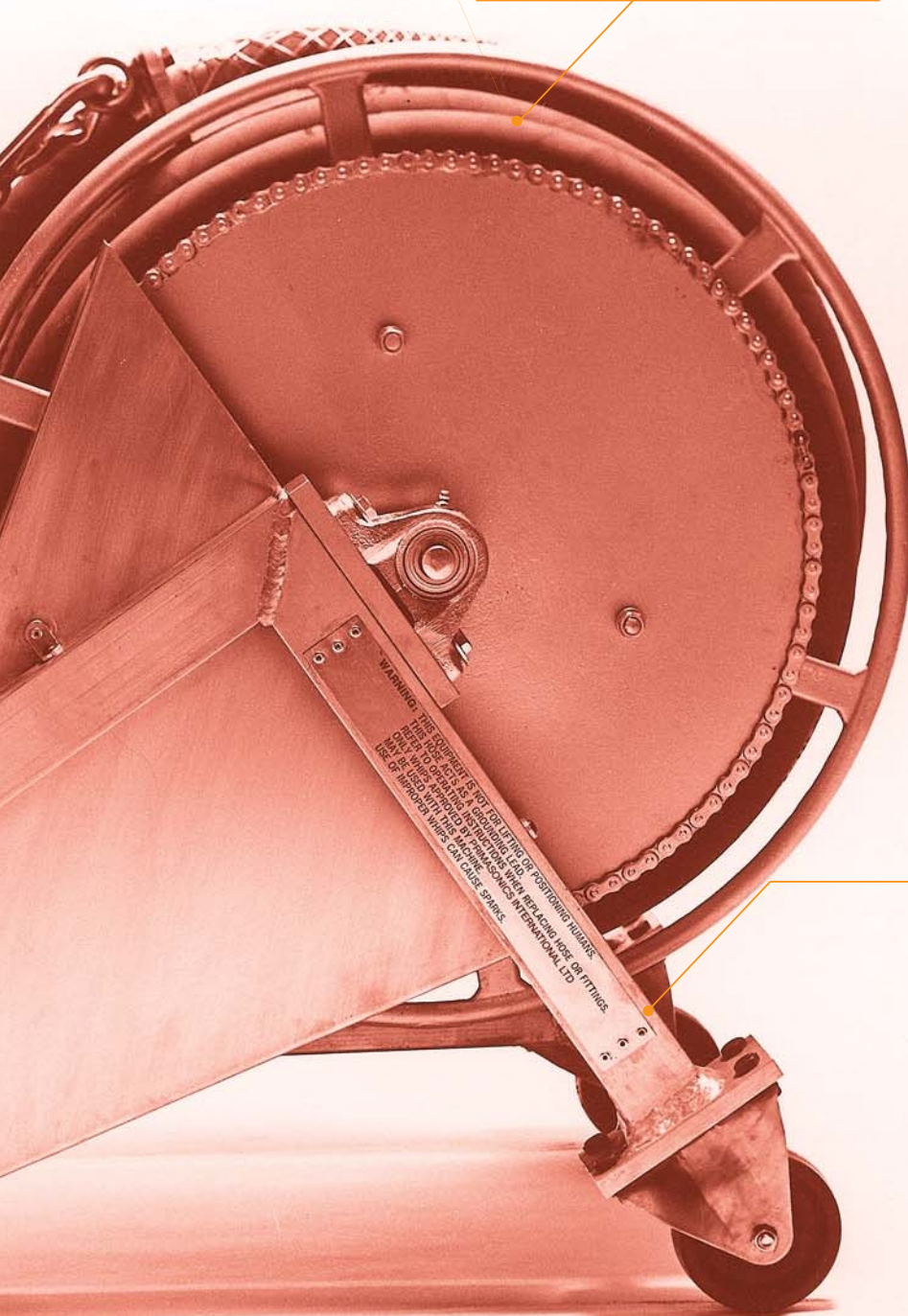
Gypsum, a wide range of Ores, Screenings, Potash and Zinc Oxide.

•) **Chemical industry:**

Dicalcium Phosphate, Carbonates and Sulphur.

•) **Agricultural applications:**

Grain, Rape Seed, Flour, Husks, Wheat, Salt and animal food stuffs.

**Mobility:**

The self contained PrimaWhip unit mounted on its trolley frame is easy to manoeuvre into position ready to be lowered into even the smallest man-entry access hatch for operation.

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Trolley mounted reel unit comprising the drive for lowering the head and the compressed air feed line.

Simplified diagram of PrimaWhip's key parts

Mounting fitted into silo entry point.

All parts of the PrimaWhip are constructed from non-sparking materials, making it suitable for use in Zone 1 and 2 areas.

Free rotating support frame on which the PrimaWhip armature is mounted.

Compressed air feed line (red), also used to suspend the cleaning head.

Armature, supporting the cleaning head and allowing it to be accurately directed anywhere within a silo.

Special advantages of the PrimaWhip system

-) Because the PrimaWhip unit is purchased by your organisation and operated by your own staff, following training by the Primasonics team, it frees you from the expense and availability problems of bought-in 'experts'.
-) PrimaWhip is a wholly remote system, meaning there is no need for dangerous, time consuming man entry operations that potentially put your staff in close proximity to hazardous unstable blockages and hang-ups.
-) The PrimaWhip cleaning process can be simply and quickly set up, yet is capable delivering highly effective cleaning results in even the largest of silos.
-) Constructed from lightweight aluminium, the system is highly manoeuvrable. These materials, combined with a compressed air drive system ensures no risk of sparking in Zone 1 and 2 fire hazard areas.
-) PrimaWhip is highly effective in use and is capable of removing even the toughest deposits of agricultural products, animal foodstuffs, cement, ores, process materials or clinker.
-) Because no man-entry is required, production need not be interrupted during the cleaning process, making important savings in expensive downtime.
-) The PrimaWhip operation can be carried out by just two of your own operators, so it doesn't make the excessive demands on your highly qualified personnel that a correctly supervised and operated man entry operation would.

Rotating cleaning head with non-sparking brass chains, driven by compressed air.

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