



Samson® Alternative Fuels Feeder

SAMSON
AUMUND GROUP



Samson® Material Feeder

SAMSON Materials Handling

SAMSON Materials Handling Ltd. Ely, UK offer specialised solutions for handling of all bulk materials in the cement industry as well as in other industries.

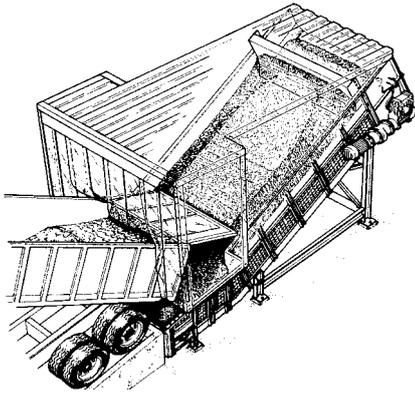
SAMSON is a member of the German AUMUND Group, which is world renowned as a supplier of a variety of tailor-made equipment for handling and storing bulk materials and has companies in all major international markets. SAMSON equipment ensures all types of flexible and mobile bulk material handling.



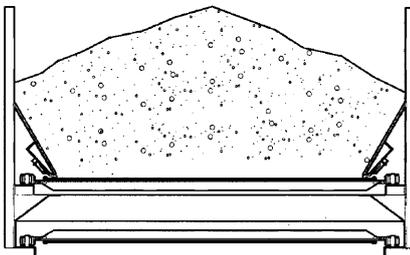
Samson® Material Feeder surface installations with regulated discharge direct to storage up to 600 t/h.



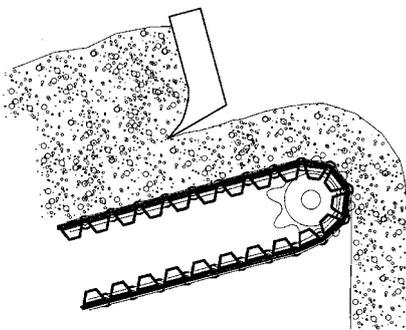
Samson® Material Feeder



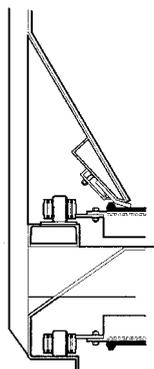
Material is drawn into the Samson® body by the forward moving conveyor belt in a controlled stream, and dust generation is reduced



Since the belt width is greater than the material bed depth, bridging and blockage are effectively eliminated



The Levelling Blade controls the material bed depth at the Samson® discharge to regulate the output rate



The flexible Side Seal contains the material within the Samson® body which protects the external conveyor chains

The number of cement plants that use alternative fuels is inevitably growing, for economic and environmental reasons.

The Samson® Material Feeder provides both a reception facility to accept material directly from tipping trucks and a buffer holding capacity with a controlled discharge rate in a single unit.

Available with the option of a fully clad enclosure, the Samson® is an autonomous unit requiring minimal maintenance and completely eliminating the need for any underground pits or hoppers.

Thus, the Samson® Material Feeder is the ideal solution for handling a wide variety of materials without the risk of bridging or blockage.

Thanks to the wide apron belt design, the Samson® will reliably handle materials such as sawdust and sewage sludge without significant modification.

Thus, the Samson® solution is both an economical and flexible investment, adaptable to a wide range of applications with minimum modification. Following is a range of fuel types that can be handled on the Samson®:

- Coal
- Pet-Coke
- Diapers (Rejected)
- Refuse Derived Fuel (RDF)
- Carpet Derived Fuel (CDF)
- Profuel (Paper and Plastics)
- Vine Prunings
- Forest Products
- Sawdust (raw)
- Sawdust (impregnated)
- Coconut and Rice Husks
- Kernel Shell
- The Derived Fuel (TDF Tyre Chips)
- Meat and Bone Meal (MBM)
- Sewage Sludge
- Wood Chips
- Filter Press Cake
- Biofuels



The Conveyor Belt riveted to Steel Apron Bars supports the load and seals the material within the Samson® body



The Samson® robust and reliable – combines the cleanliness of a belt feeder with the strength of an Apron Feeder



The Samson® Material Feeder supplied with a screw mounted across the discharge to meter the tyre chips to a vertical bucket elevator discharging to a high level bunker

Dicharge of Tyre Chips

- Single integrated machine
- Combining the strength of an apron chain feeder with the cleanliness of a belt system
- Easy to relocate

Tyre chips derived from both car and truck tyres are a well-established alternative fuel with calorific value in excess of coal but with the added benefit of a government subsidy for disposal through the cement kiln.

Generally delivered as primary or double chips, the double chipped material passes through the shredder twice, and a smaller chip size, normally down to an average of 100 mm, is obtained.

Tyre chips generally have sections of ragged wire hanging from each chip, which makes the material highly prone to bridging and hence difficult to store, extract and feed.

However, the Samson® wide apron belt principle has proven very effective in handling all types of tyre chips, both for material intake from the tipping truck and for storage, as illustrated.



Regulated discharge with Screw Metering Feeder direct to Bucket Elevator



Storage capacity 100 tons without risk of bridging or blockage



Storage and Feeding

- Storage capacity without risk of bridging or blockage
- Output regulated by Weigh Belt Feeder with Belt
- Conveyor onward Transport

Combining fuel storage with a metered discharge is an essential feature of any alternative fuel installation, allowing the material to be delivered to the burner or precalciner at a precise rate to suit the kiln chemistry.



The Samson® MF800 Series provides 100 tons of live storage capacity and a controlled discharge metered by Weigh Belt Feeder with inclined Belt Conveyor raising the material to the precalciner

In these applications, the Samson® Material Feeder is supplied with an auxiliary feeder mounted across the discharge to regulate the actual feed rate down to a few tons per hour.

The Samson® head chute is utilised as a buffer hopper to maintain a controlled head above the auxiliary feeder ensuring effective output control.



Output regulated by Weigh Belt Feeder with Belt Conveyor onward transport



ProFuel intake facility with Drag Chain Conveyor type TKF onward Transport



Universal Applications

- Sludge intake facility with Screw Metering and onward Transport by pump
- ProFuel intake facility with Drag Chain Conveyor onward Transport

The ability of the Samson® Material Feeder to receive and store such a wide range of materials facilitates the growth and easy adaptation of new flexible installations as the cement plant develops and new process demands are identified.

By eliminating the need for expensive and permanent deep pits and associated civil works, new processes become more economically viable, and with the knowledge that the equipment may be easily relocated, or reused, investment decisions are simplified.

For many new alternative fuel projects, permissions must be granted by the local government and flue gas emissions monitored over an extended period before a permanent license is granted. In these circumstances, the minimum initial investment for the trial period is mandatory, and the Samson® Material Feeder offers real and positive benefits.

The applications illustrated on this page demonstrate the range of materials that may be reliably handled by what is essentially the same machine design.

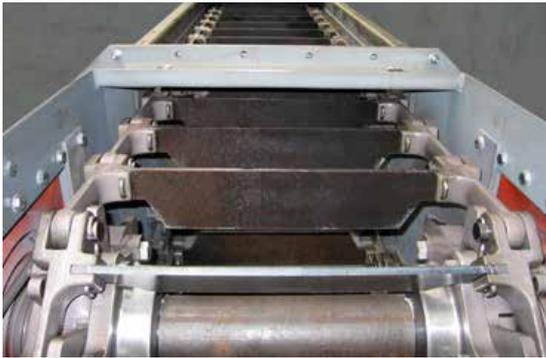
In the pictures above, the Samson® Material Feeder is receiving and storing ProFuel (light paper and card), and in the pictures below, the is handling sewage sludge with only 22% dry solid content, including a twin-screw metering feeder to regulate the output precisely.



Sludge intake facility with twin screw-conveyor onward transport



Pet-Coke intake facility with onward transport by belt conveyors to SCHADE storage



AUMUND TKF Drag Chain Conveyor type TKF



Direct transfer from Samson® to Chain Bucket Elevator

AUMUND Group Integrated Solutions

- Pet-Coke intake facility with onward transport by belt conveyor to SCHADE storage (within the AUMUND Group)
- Direct transfer from Samson® to Chain Bucket Elevator

The Samson® Material Feeder is ideally integrated in the AUMUND Group equipment program, consisting of AUMUND Fördertechnik manufactured Bucket Elevators, Pan Conveyors, Drag Chain Conveyors and SCHADE's range of Stackers and Reclaimers.

Illustrated left the Samson® Material Feeder discharges directly into an AUMUND Central Chain Elevator, which raises material to silo storage.

In addition, the Samson® may be combined with the AUMUND TKF Drag Chain Conveyors to transfer material to storage or process.

As illustrated above, the Samson® Material Feeder receives Pet-Coke directly from tipping trucks discharging at a controlled rate of 600 t/h to inclined conveyor belts.

The conveyor raises the material to the SCHADE Circular Storage System.

In this installation the AUMUND Group were able to offer a complete material handling package and, along with our local partners, full-site services for the complete project.

The AUMUND Group

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SAMSON

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Dedicated to providing the most comprehensive range of mobile solutions for bulk materials handling in Ports and Terminals, Mining, Environmental, Cement, Foodstuffs, Agriculture and Power.

Built around the unique concept of the Samson® Material Feeder, SAMSON Materials Handling offer flexibility, reliability, quality, and industry leading performance from truck intake right through to mobile stacking and ship loading solution.

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